AN ANALYSIS AND PROPOSAL FOR REVISION OF THE COAST GUARD ENLISTED PERFORMANCE EVALUATION SYSTEM

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THESIS

AN ANALYSIS AND PROPOSAL FOR REVISION
OF THE COAST GUARD
ENLISTED PERFORMANCE EVALUATION SYSTEM

by

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An Analysis and Proposal for Revision of the Coast Guard Enlisted Performance Evaluation System

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ABSTRACT

The Coast Guard enlisted performance evaluation system requires a semiannual evaluation of all enlisted personnel in the areas of proficiency, leadership, and conduct. The stated objective of the system is to differentiate between the performance of individuals. The performance evaluation marks assigned are intended for such administrative purposes as advancement in rate, assignment, and determination of the character of service. A Coast Guard-wide sample of performance evaluation marks for the period ending 31 December 1975 and of the records of personnel who participated in the March 1976 servicewide examination for advancement was analyzed. In an effort to improve upon the quality of enlisted performance evaluations, a format and methodology for development of a new performance evaluation system that will differentiate individual performance as well as aid in individual career development through counseling was designed.

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I. THE NEED FOR A COAST GUARD ENLISTED PERFORMANCE EVALUATION SYSTEM

Organizations have developed and employed formal performance evaluation systems to satisfy two sets of sometimes conflicting needs: those of the organization and those of the individual. Organizational needs have been directed toward obtaining standardized documentation to facilitate systematic and equitable judgments for such administrative actions as promotion, transfer, and termination. Individual needs have centered on personal recognition and development. To satisfy these individual needs each person must be provided with information on how seniors assess his or her performance, how this performance may be improved, and where the individual stands relative to his or her peers.

The purpose of this study was to analyze how adequately the Coast Guard enlisted performance evaluation system satisfies the two basic needs and to propose changes if necessary. Although the present system has remained virtually unchanged since 1961, prior to this study no formal, systematic analysis had been conducted. There was neither data available on the overall distribution of performance evaluation marks with which to compare the results of this study, nor was there one location where the current marks of all individuals could

be examined. Current performance evaluation marks were sampled from the records of the enlisted assignment officers in Coast Guard headquarters and from recommendations for servicewide examinations maintained by the Coast Guard Institute. Though the samples were subsets of the enlisted population, they were the best samples available and, in the opinion of the authors, were indicative of the actual distribution that existed in the Coast Guard for the evaluation period ending 31 December 1975.

The present performance evaluation system has been an essential part of the Coast Guard's overall personnel management program. If the present system has not adequately differentiated among the performance of individuals, the administrative processes of advancing and assigning enlisted personnel may have been severely degraded. As a result, the best qualified individuals may not have been selected for advancement to senior enlisted, warrant officer, or commissioned officer levels. Since our reputation as a professional seagoing service has been largely based on the competence of senior enlisted personnel who serve on our floating units, particularly as officers in charge, the impact of incorrect administrative decisions on the service may have seriously affected the efficiency and effectiveness of the Coast Guard.

As a product of this analysis, several shortcomings in the present system were revealed. This resulted in the development of a methodology for establishing an entirely new system designed to adequately satisfy the needs of both the organization and the individuals within the organization.

II. ANALYSIS OF THE PRESENT COAST GUARD ENLISTED PERFORMANCE EVALUATION SYSTEM

The system presently employed in the Coast Guard for evaluating enlisted personnel performance is outlined in the Personnel Manual (CG-207) [Ref. 32]. The stated objective, to differentiate between the performance of individual enlisted personnel, was designed to produce performance marks that would be used for a myriad of administrative purposes. These uses of performance marks as described in Chapter 10 of the Personnel Manual include:

1. a factor in the advancement in rate process
2. selection for proficiency pay
3. selection to warrant or commissioned status
4. selection for special programs and courses of instruction
5. selection of individuals to be awarded the Good Conduct Medal
6. determination of the type of discharge
7. desirability for reenlistment
8. reduction in rate for incompetency
9. propriety of early separation by administrative discharge

One additional use, which is outlined in Chapter 4 of the Personnel Manual, is the assignment of enlisted personnel to duty stations. The mechanics of the present enlisted performance evaluation system is included as Appendix A for the benefit of those readers not familiar with the current procedures.

From the objective and uses of the performance marks, the authors concluded that the system was designed to satisfy the organizational purpose of providing systematic judgments and documentation for administrative actions. From analyzing the uses as well as the mechanics of the system, the authors also concluded that the second purpose of a performance evaluation system, that of counseling and development, has been virtually ignored in the present system.

To analyze the present system, information was collected from four sources. The first source was a series of 22 interviews conducted both in the field (including a former Chief of the Enlisted Personnel Division and two district personnel officers) and at the headquarters level. Personnel interviewed at headquarters included the current Chief of the Training and Education Division and two of his assistants, the current Assistant Chief of the Enlisted Personnel Division, the Chief of the Enlisted Assignments Branch and two of his assistants, and 12 enlisted assignment officers.

The purpose of these interviews was to obtain their perceptions of marks and marking trends, the utility of marks assigned under the present system, and to identify problem areas along with suggestions for improvement.

Another source of information was obtained by removing all the descriptive phrases from the Enlisted Performance Evaluation Worksheet (CG-3788), attached as Appendix B. Those terms relating to a particular trait (such as appearance, petty officer potential, etc.) were grouped, although not in the same order as in the original form, and 15 officers were asked to place these phrases in the appropriate category (proficiency, leadership, and conduct) at the appropriate level (ranging from "ideal" to "grossly inadequate"). The purpose of this exercise was to determine if individuals who had been raters and were prospective raters agreed with the rank-order and placement of descriptive terms on the current evaluation form.

Two other sources of data were a sample of performance marks obtained from headquarters "request for assignment" files and servicewide examination data for advancement in rate from the March 1976 servicewides obtained from the Coast Guard Institute. The data obtained from both of these sources has been explained in further detail later in this chapter.

A. AN ASSESSMENT OF THE PRESENT SYSTEM'S ABILITY TO SATISFY ITS PRIMARY OBJECTIVES

1. The Sample

The first step in analyzing the present system was to assess the degree to which the primary objective of differentiating among the performance of individuals was satisfied. A problem was encountered since all performance marks have not been collected in any central location. The largest collection of current marks that could be located were those performance marks submitted to the Central Assignment Control (CAC) officers in the Enlisted Assignment Branch of Coast Guard headquarters on the Enlisted Assignment/Data Form (CG-4526). A sample of 2310 sets of marks (a set consists of a mark for proficiency, leadership, and conduct) for the semiannual evaluation period ending 31 December 1975 was taken.

A stratified, random sampling technique was employed. The sample was stratified by paygrade and an attempt was made to capture marks for ten per cent of the total Coast Guard population for each specialty or rating within each paygrade for rated personnel (paygrades E-4 through E-9). This strategy was affected by the fact that for some rates and ratings December 1975 marks were not available for ten per cent of the total population since not all personnel had

an assignment form on file and, in other instances, forms on file did not contain marks for the desired period. In instances where fewer than ten per cent were available, all of the available marks were collected. When greater than ten per cent were available, ten per cent of the marks were selected at random. Since all enlisted personnel are directed to submit assignment forms when advanced and within ten days of reporting on board a new unit for permanent assignment to duty, all personnel should theoretically have a form on file. The reasons that many have not submitted the form were unknown. This situation indicated a possible source of bias in the sample collected. Additionally, marks were collected for only one specific marking period to reduce any effect of changes in marking trends over time. This procedure resulted in limiting the number of personnel whose marks could be analyzed and introduced another possible source of bias.

Since headquarters assigns only personnel with a specialty, a limited number of marks was available in headquarters for nonrated personnel in paygrade E-3 who had subsequently been advanced or were selected for advancement. Since district personnel officers assign nonrated personnel without a specialty, additional E-2 and E-3 marks were obtained by recording all marks available for these paygrades in the

Personnel Division of the Third Coast Guard District in New York. Once again, for unknown reasons, many personnel did not have requests for assignment on file. Furthermore, the assumption was made that the collection of marks from this one geographic region could be generalized to the entire population of nonrated personnel. One additional noteworthy point was that no marks were available for personnel in paygrade E-1 due to the fact that the overwhelming majority of personnel in this paygrade are undergoing recruit training and recruits are not assigned performance marks under this system.

2. Analysis of the Sample

The sample collected was analyzed in several manners. First of all, the distribution characteristics were calculated for the sample as a whole. This was done to test the hypothesis that since all evaluations are submitted on the same dates, a commanding officer responsible for reviewing the marks could be led to believe that a good distribution was being obtained since the evaluations for all rates and ratings were being reviewed at the same time. Secondly, the marks were analyzed by paygrade. Since all individuals are to be evaluated relative to others in the same paygrade, this analysis was designed to test how well the marks assigned under the current system differentiate among the performance

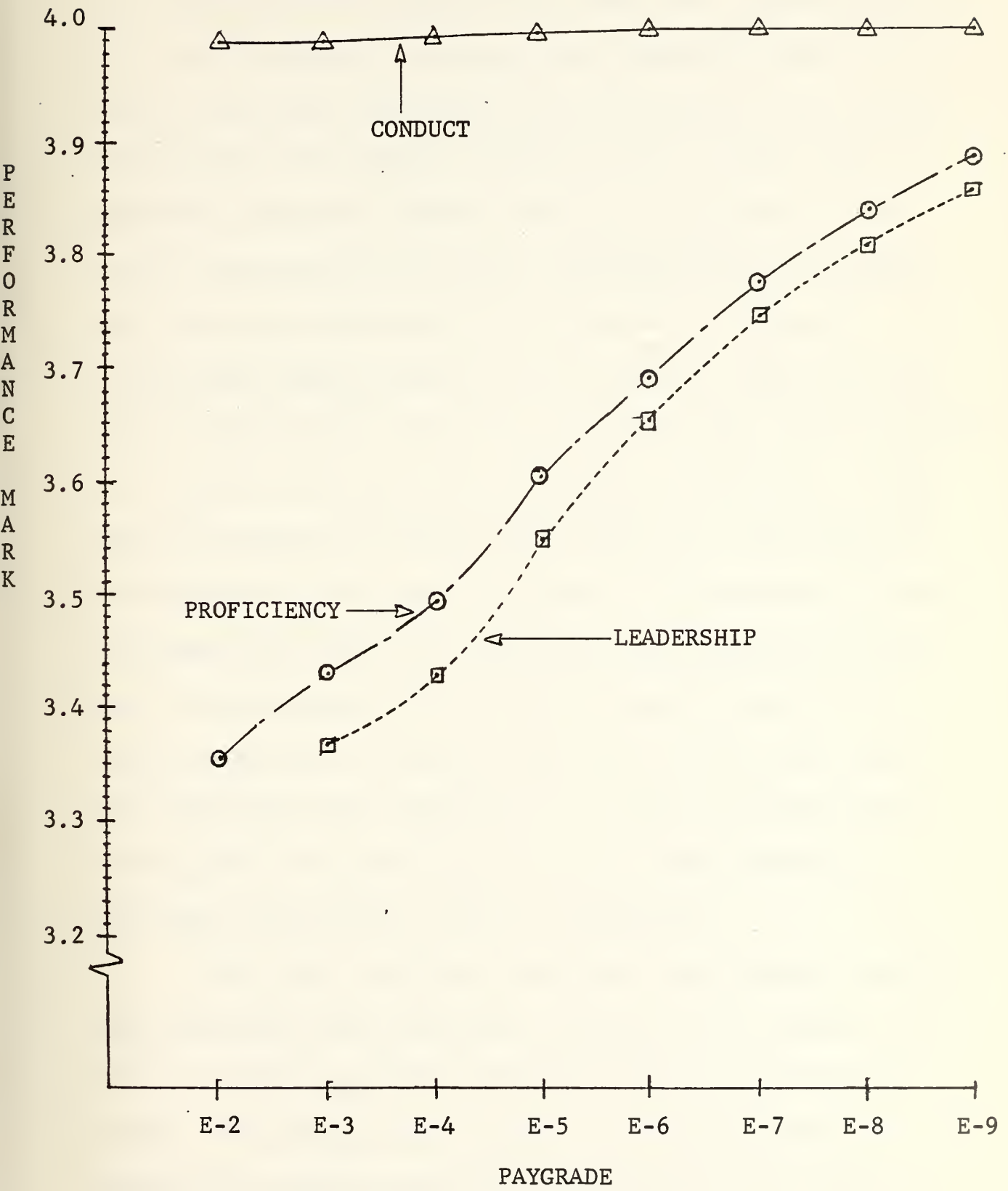
of individuals of the same paygrade. One final analysis was made to determine if marking trends varied among the various communities within the Coast Guard. To conduct this analysis the authors divided the rated personnel into three communities or categories and then computed the distribution for each community. A listing of the specific ratings placed in each category has been outlined in Appendix C. One problem encountered with the results obtained from this portion of the analysis was that in several instances the sample size was not large enough to enable the authors to confidently conclude that the results could be generalized to all persons of that paygrade in that community. In these instances, where the number of cases was less than thirty, the results have been annotated.

3. Results and Conclusions

The specific results of this analysis have been included as Appendix D with an overview of the results depicted graphically in Figure 1 below.

The analysis revealed that a mark of 4.0 in conduct was almost universal. This result was not surprising since the Personnel Manual indicates the evaluation of conduct will normally be 4.0. The distribution of marks across all ratings and paygrades was adequate and supported the hypothesis that a commanding officer could draw the conclusion that the

Figure 1. Graphic Presentation of Mean Performance Marks by Paygrade from Appendix D.



present system does produce a reasonable distribution when all evaluations are viewed at the same time. When examining the distribution of proficiency and leadership marks by paygrade, the results indicated that the mean for each paygrade differs from the intended average of 3.3. In all cases, as paygrade increased, the mean marks also increased. This result supported the perception of individuals interviewed that marks were inflated with an increase in paygrade. Furthermore, the variance in the proficiency and leadership marks decreased with increases in paygrade for rated personnel. As a result, it is felt that the present evaluation system has not adequately differentiated among the performance of individuals in more senior paygrades. The analysis of marks by communities led to the conclusion that evaluations have been more inflated in the aviation community than in the other communities. Another conclusion was that the marks for proficiency and leadership are highly correlated indicating that the present system has not been adequately measuring two distinct traits or attributes.

The final conclusion drawn was that enlisted performance evaluation marks should be collected in a central location to permit a periodic analysis of the distribution of marks. This change would permit a routine assessment of whether the primary objective of the evaluation system is being satisfied.

B. AN ANALYSIS OF THE CURRENT USES OF PERFORMANCE MARKS

The next step in analyzing the present performance evaluation system was to examine each of the uses for the performance marks and determine how effectively the marks contributed to satisfying that use. Responses from the interviews conducted revealed that the majority of personnel believe advancement in rate and assignments to be the most important uses of performance marks.

1. Advancement in Rate

a. Advancement to Paygrades E-2 and E-3

Since the Enlisted Performance Evaluation Worksheet (CG-3788) has not been used for evaluating recruits, it rarely affects advancement to E-2. For advancement to paygrade E-3, the determination of qualification has been made by the local command for individuals who have met minimum time-in-service requirements, completed a list of required practical factors, and satisfactorily passed a correspondence course administered through the Coast Guard Institute for Seaman or Fireman. Therefore, performance marks have played only an indirect role as no minimum performance levels have been established.

b. Advancement to Paygrades E-4 through E-9

In all petty officer grades, advancement has been based on a servicewide competition system among individuals

who seek advancement to each specific rate. After a man has completed the practical factors, a correspondence course for the next senior rating, and satisfied the minimum time-in-rate requirement, he takes a Coast Guard-wide examination, developed and scored by the Coast Guard Institute. This examination score is combined with factors for performance, time-in-service, time-in-rate, and medals and awards for computing a final multiple described in detail in Table I. This final multiple is used to determine each individual's position in the rank ordering of all personnel of the same paygrade and rating who are competing for advancement. The Enlisted Personnel Division of headquarters determines the needs of the service for each rate, considering authorization ceilings, and that number are advanced from the rank-ordered listings of personnel in the order they appear in the listing.

While Table I reports a percentage of the total multiple that each factor contributes, it should be pointed out that these are intended contributions. The actual role of each of these factors is dependent upon the degree that each factor discriminates one competitor from another. For instance, if all competitors for E-9 in the Boatswain's Mate rating have performance marks of 4.0, performance marks would have no effect in determining the final rank-order of these

Table I

Factors and Maximum Points in the Final Multiple Score for Advancement in Rate

Factor	Maximum Points	Percentage of Total Multiple	How Computed
Examination Score	80	44.44	Exam standard score
Performance Evaluations	50	27.78	(1) Subtract average performance marks (average of proficiency and leadership during period of eligibility) from 4.0. (2) Multiply by 30. (3) Subtract total from 50.
Time in Service	20	11.11	Total months ÷ 12. One point credit per year with a maximum credit given for 20 years.
Time in Paygrade in Present Rating	20	11.11	Total months ÷ 6. Two point credit per year with a maximum credit given for 10 years.
Medals and Awards	10	5.56	Various medals with different points. Point values of each medal listed in Article 5-C-1 of the Personnel Manual.
Final Multiple Score	180	100.00	

competitors. Since the variance of each of the factors determines the actual weighting the factor has in determining the final ordering, a statistical analysis of the factor scores for personnel competing for advancement was performed to analyze the true role of performance marks in the advancement process. The data analyzed was obtained from the Coast Guard Institute and contained the numerical values for each of the five factors on all personnel competing for advancement in the March 1976 competition. A series of multiple regressions were calculated using the Statistical Packages for the Social Sciences [Ref. 29]. Actual weightings were determined from the amount of variance contributed by each factor as determined by the change in the squared value of the multiple regression coefficient.

c. Results and Conclusions

While more detailed information by paygrade has been provided in Appendix E, Table II presents the actual contributions across all paygrades. The results indicate that the actual role of the performance factor is considerably less than intended. This was primarily due to the small variance in performance marks as well as the formula established for computing this factor. Since marks of 3.3 in proficiency and leadership in the last evaluation period are required as a minimum for recommending an individual to

Table II

Actual Contributions of the Factors in the Final Multiple Score for Advancement in Rate[1]

Factor	Intended Contribution	Actual Contribution
Examination Score	44.44	39.72
Performance Evaluations	27.78	15.33
Time in Service	11.11	38.26
Time in Paygrade in Present Rating	11.11	5.95
Medals and Awards	5.56	0.56
Final Multiple Score	100.00	99.82[2]

[1]Actual contributions depicted here are an excerpt of the material presented in Appendix E. The figures listed above were calculated for 2729 enlisted personnel in paygrades E-3 through E-8 who participated in the March 1976 servicewide competition for advancement.

[2]Factor contributions do not sum to 100 due to rounding errors.

participate in the advancement competition, the formula for computing each competitor's performance factor insures that approximately 29 of the 50 points have been awarded to each competitor, thereby further reducing the maximum amount of variance that could have occurred.

One important point that should be considered is that the examination scores have been standardized so a specific amount of variance has been imposed. Performance factors, as well as the remaining factors, could also be standardized to produce a desired variance which would permit each factor to have an actual contribution equivalent to the intended contribution. But this would only amount to forcing a distribution where one did not naturally exist. This approach would really be treating a symptom and ignoring the basic illness and therefore has not been recommended.

A similar analysis for each different competition date would probably produce different results due to the change in variance caused by the different set of competitors. It is strongly recommended that in the future all competitions be analyzed to determine the actual basis for selecting personnel for advancement and as an indication of when the selection for advancement system is in need of revision.

An analysis of the distribution of performance marks from the advancement data was also calculated. The

results of this analysis have been included as Appendix E. The performance marks contained in this data set were an average of the proficiency and leadership marks for the period of eligibility. The period of eligibility or time in present paygrade varies with paygrade and have been listed in Table III that follows:

Table III

Period of Eligibility by Paygrade

Examination Paygrade	Period of Eligibility
E-3 to E-4	6 months
E-4 to E-5	6 months
E-5 to E-6	12 months
E-6 to E-7	24 months
E-7 to E-8	36 months
E-8 to E-9	24 months

In all cases the marks for the period of eligibility included the December 1975 marks but for the more senior paygrades additional marks for previous periods were included. For these reasons, as well as for the fact that a minimum mark criteria has been established, the results of this analysis could not be used to cross-validate the results of the performance mark distributions obtained previously. However, the general trends and conclusions drawn from the previous analysis were supported by the distributions obtained.

The overall conclusion from this portion of the study was that the performance marks derived under the present

system, which do not adequately differentiate among the performance of individuals, result in reducing the impact of the performance factor in the advancement system.

2. Selection for Proficiency Pay

As outlined in Commandant Instruction 1430.1F [Ref. 6], proficiency pay has been granted only to those enlisted personnel who have been serving in intelligence billets, recruiting billets, and recruit and assistant recruit commander billets. Performance marks are not used as a factor in selecting personnel for proficiency pay.

3. Selection to Warrant or Commissioned Status

Enlisted performance marks have been used in the selection of personnel for commissioned status in an indirect manner. The determination of which enlisted personnel are best qualified for Officer Candidate School has been made by a selection board process. Enlisted personnel competing for selection have been required to obtain scores on the Officer Qualification Test above a minimum level and have the recommendation of their assigned command. These recommendations from the command include performance marks but the perception of people interviewed was that board members have had little confidence in the value or meaning of these marks and have relied more heavily on other factors when selecting candidates. As for the selection of warrant officers, a servicewide

competitive examination system similar to that employed in the advancement process has been utilized. However, a concession that the present performance evaluation system does not adequately differentiate senior enlisted performance has been made. A special evaluation form, Evaluation Sheet for Appointment to Warrant Grade (CG-3875), has been utilized to assess the performance of candidates.

In conclusion, the marks derived under the present enlisted performance evaluation system do not adequately serve a useful purpose for selecting enlisted personnel for warrant or commissioned officer status.

4. Selection for Special Programs and Courses of Instruction

a. Class A School Training

The primary criteria for selecting personnel for Class A School training has been scores obtained on the Navy Basic Test Battery (BTB). Individuals have been selected from both recruit training and from the field. Since recruits have not been evaluated under the enlisted performance evaluation systems, performance marks have had no bearing on the selection of these individuals. For individuals selected from the field, in addition to having met the BTB score criteria, they must have received a recommendation from their assigned command. While an implication

has existed that a commanding officer should consider performance when recommending an individual, the role of performance marks has been indirect.

b. Advanced Electronics Training and Physician Assistant Training

For both of these programs the selections have been made by board actions that use the special evaluation forms employed in the warrant officer selections. Performance evaluations derived from the present system have had only an indirect or no effect in this selection process.

c. Results and Conclusions

The overall conclusion reached was that performance appraisals made on the present form have played only an indirect role in the selection of personnel for special programs and courses of instruction. Performance marks have not been adequate for this use and in most instances have been replaced by special evaluations.

5. Selection of Personnel Eligible for the Good Conduct Medal

Since 1 November 1963, the criteria, as specified by the Medals and Awards Manual (CG207-2) [Ref. 23], for a Good Conduct Medal has consisted of no court-martial conviction; no non-judicial punishment; no misconduct as determined by the Coast Guard Supplement to the Manual for Courts-Martial (CG-241) [Ref. 4]; no civil conviction for an offense

involving morale turpitude; and minimum performance marks of 3.0 in the proficiency, leadership and conduct for a period of four years continuous, active duty. As supported by the mark distribution computed from the CAC sample, performance marks recently have served to disqualify only a very few enlisted personnel. The authors also found it peculiar that the conduct mark criteria for awarding the Good Conduct Medal was less stringent than the conduct mark criteria for such other personnel actions as interdistrict and mutual transfer.

6. Determination of the Type of Discharge

The criteria that has been established to discriminate honorable service from less than honorable service has been based on performance marks. An average performance mark of 2.7 in proficiency and 3.0 in conduct has been determined as the point for distinguishing service worthy of an Honorable Discharge from service worthy of a General Discharge. As witnessed from the CAC performance mark analysis, the present performance evaluation system has not identified less than honorable service. Only one of the 2310 marks for proficiency collected was less than 2.7 and no marks were below 3.0 in conduct. In fact, only one additional proficiency score was below 3.0.

7. Desirability for Reenlistment

Since there has been no performance mark criteria established for determining the desirability for reenlistment, performance marks have not made any contribution for satisfying this use. Furthermore, the CAC mark distributions observed indicate that the present system has not adequately differentiated the performance of individuals and establishing a criteria for performance based on current marks would be of little value.

8. Reduction in Rate for Incompetency

The Enlisted Performance Evaluation Worksheet (CG-3788) and the Personnel Manual have stated that personnel receiving a proficiency mark of 2.0 to 2.4 should be considered candidates for disrating (demotion) unless improvement is shown. A proficiency mark of 1.9 or less has indicated that disrating or separation action is being taken or is in order. The analysis of the current mark distribution has indicated that performance marks have not adequately identified individuals who should have been reduced in rate for incompetency.

9. Propriety of Early Separation by Administrative Discharge

Since no performance mark criteria have been established for this purpose, performance marks have been of no

benefit for this use. Comments from the personnel interviewed indicated that the performance marks for individuals recommended for administrative discharge have frequently failed to reflect poor performance.

10. Assignment of Enlisted Personnel

While Article 4-C-5 of the Personnel Manual does not list performance marks as one of the factors in selecting personnel for transfer, other articles in Chapter 4 have prescribed some performance mark criteria for certain transfers. To qualify for an interdistrict transfer, an individual must have received proficiency and leadership marks of at least 3.3 and a conduct mark of at least 3.9 during the last regular semiannual evaluation period. To qualify for an autogeneous transfer (a transfer at the serviceman's expense, either a mutual exchange of station between personnel of the same rating and paygrade, or a unilateral change of station when an individual is in excess of the personnel allowance at his or her present duty station), an individual must have received proficiency and leadership marks of at least 3.3 and a conduct mark of at least 3.9 during the previous year. Since the Personnel Manual defines a mark of 3.3 in proficiency and leadership as average, if the intent was to prohibit below average performers from receiving interdistrict and autogenous transfers, this intent has not been

satisfied. Due to the experienced distributions of performance marks, individuals in all paygrades with marks of 3.3 are below the mean or average performance level.

Comments from the interviews conducted with personnel responsible for enlisted assignments indicated that assignment officers would like to assign enlisted personnel where they could be utilized most effectively. One aid in making this determination could be performance marks. However, the interviews revealed that these officers have a general mistrust for the employment of performance marks in the assignment process. These individuals felt that there was so little variance in the assigned marks in several paygrades for certain ratings that the marks were virtually useless. Furthermore, since only the numerical performance marks are forwarded, the assignment personnel could not identify why the marks were assigned and what strong or weak traits or attributes an individual possessed that prompted the assignment of these marks. Command comments relating to the suitability for the requested assignment have been solicited on the Enlisted Assignment/Data Form (CG-4526) but frequently have not been completed or have consisted of a noninformational endorsement. When comments are provided, they frequently conflict with the performance marks on the form. In view of the situations described, it was easy to

understand why the assignment personnel have placed so little value on the role of performance marks in the assignment process.

The comments received during the interviews with assignment personnel identified additional performance information that would benefit the assignment process. The first comment expressed by the majority of persons interviewed was that the comments describing an individual's performance would add significantly to the value of the numerical marks. A second comment that received considerable endorsement was that more information relating to the actual duties being performed during each performance evaluation period would be beneficial. One final recommendation was that a command assessment of each individual's suitability for instructor duty, independent duty, and assignments involving contact with the public would be helpful.

One assignment process which has explicitly considered the role of performance in assignment has been the selection and assignment of enlisted personnel as officers in charge. As specified in Commandant Instruction 1306.11 [Ref. 5] the selection of these key personnel has been accomplished by review boards established at the district level. However, a detailed evaluation has been requested

of each commanding officer and a special evaluation form has been provided for recording the district review boards evaluation. For the October 1976 board, the Commander, Twelfth Coast Guard General District directed that nominees be evaluated on the Report of the Fitness of Lieutenant (junior grade), Ensigns, and Commissioned Warrant Officers with less than Two Years Service (CG-4328A). While individual service records containing the numerical performance marks have been reviewed as a part of this selection and assignment process, the present evaluation system has not adequately differentiated among individual performance to enable selection of the best performers for assignment as officers in charge.

C. AN ANALYSIS OF THE MECHANICS OF THE PRESENT SYSTEM

1. The Periodicity of Evaluations

Several disadvantages of evaluating all personnel on the same dates have been identified. First of all, it has tended to reduce the amount of time available for completing and reviewing each evaluation. Secondly, it has served to permit the comparison of individuals with others of different paygrades. Since all personnel have been evaluated at the same time, a natural tendency has existed to compare each person's performance with a much larger group of individuals than just those of the same paygrade. Finally, as was supported by the distribution of performance marks

across all paygrades, it has disguised the fact that there has been little differentiation among the performance of individuals in the same paygrade. But from an aggregated viewpoint the appearance of a distribution has been perceived due to the inflation of marks with the increase in paygrade.

2. The Present Evaluation Form

The Enlisted Performance Evaluation Worksheet (CG-3788), included as Appendix B, has been used to evaluate all enlisted personnel regardless of paygrade. The implication has been made that since all enlisted personnel have been evaluated on the same form they must perform similar tasks. It is the opinion of the authors that this does not accurately represent reality. Senior enlisted personnel have been required to perform numerous managerial skills while enlisted personnel in the middle paygrades have been assigned supervisory duties. The forms must be more applicable to some enlisted personnel than to others. A review of the descriptive terminology on the form has indicated that the form was best suited for more junior personnel. For instance, in the leadership evaluation blocks a person's potential for becoming a petty officer has been evaluated. If an individual has already been advanced to a petty officer paygrade, then he or she must transcend this evaluation. This has

been a factor in the tendency for evaluations of more senior enlisted personnel to be inflated. Another factor that has produced the reported inflation was caused by the numerical scaling on the form. On a 4.0 scale, the section of the form marked "average" equates to a numerical score of 3.3.

Another shortcoming of the form has been that a myriad of attributes have been clustered under the terms of proficiency and leadership. Aspects of a need for judgment, professional knowledge and skill, and advancement potential have been included under the heading "Proficiency;" while aspects of confidence and morale, effectiveness and initiative, and petty officer potential have been included under the heading "Leadership." When an individual has performed at one level in some of these aspects but at a different level in other aspects, there has been no guidance provided for determining how the final mark should have been determined. For some potential users of the marks, there has been no way of determining what subjective weighting was applied when the rater combined performance of varying degrees in the different aspects under the same term to derive an overall mark. Comments which might indicate the stronger and weaker aspects of an individual's performance have been required only for the highest and the two lowest evaluations. When comments have been provided on the worksheet,

the information has been lost since the forms were destroyed thirty days after the numerical marks were recorded in the individual's service record in accordance with the instructions on the worksheet. If the instructions were changed to require copies of the worksheet to be forwarded to the district offices and headquarters, some additional,beneficial information would be preserved. It is the opinion of the authors that comments should be mandatory on all evaluations. Additionally, a specific listing of duties performed should be provided. The information assessing an individual's performance levels has been of limited value without knowing the specific duties or tasks the individual had performed.

The exercise in which 15 officers matched the descriptive terms from the present form to the adjective evaluations in the areas of proficiency, leadership, and conduct produced some interesting results. While the sample size was too small to permit a rigorous statistical analysis, approximately one-half the officers placed aspects of proficiency and leadership in the opposite category from where it appears on the present form. This demonstrated that the two terms either have not been well defined or are not mutually exclusive. This observation was supported by the high intercorrelation between proficiency and leadership marks obtained from the CAC mark sample (Appendix D) and

has led the authors to conclude that all aspects of performance should be evaluated separately rather than clustering several aspects into a few ambiguous categories.

3. The Evaluation Chain of Command

a. The Immediate Supervisor

The initial evaluation of each enlisted person has been completed by the individual's immediate supervisor (also referred to as the first-line supervisor). The first difficulty with this procedure has been that no training in the evaluation of personnel was required and in most instances has not been provided. To aggravate this situation, the only instructions detailing the workings of the system and describing how the evaluation form should have been completed have been published in the Personnel Manual. Due to the limited availability of copies of this publication at each command, coupled with the fact that all immediate supervisors have been required to evaluate all their personnel during the same timeframe, a degradation in the quality of evaluation that an immediate supervisor can produce has been experienced.

b. The Intermediate Review Process

While the number of individuals reviewing each evaluation has varied from one command to another, no requirement has been established for providing feedback to the

immediate supervisor on changes each reviewer has made or the quality of each evaluation. Consequently, most immediate supervisors have received little assistance in improving their evaluation skills.

c. Commanding Officer/Officer in Charge Approval

It has been possible for each command to apply different standards for evaluation based on the varying perceptions of the system held by each commanding officer or officer in charge who must make the final approval on each evaluation. Consequently, no determination can be made as to whether small differences in marks reflect differences in rater standards or ratee performance. In the absence of information on the desired or experienced distribution of performance marks, this situation has been perpetuated. If feedback had been provided to each command comparing that command's mark distribution with either a desired or experienced distribution, it would have enabled the final review authority to draw an intelligent conclusion about his marking trends.

4. The Appeal Procedures

While a system for appealing performance marks has been established, the true value of the appeals procedures has been questionable. This situation has been the product of three factors. First of all, there has been no requirement

to inform an individual of the performance marks assigned. Secondly, the ratee has not been informed of the date when the assigned marks were entered in his service record. In the third place, the individual might not even be aware of the fact that he has a right to appeal. In view of these three factors, the existence of an appeal process, where a written appeal must be submitted within thirty days of the date performance marks were entered into an individual's service record, has been less than adequate.

D. SUMMARY OF CONCLUSIONS

The authors' analysis of the present Coast Guard enlisted performance evaluation system produced several conclusions. First of all, the system has not adequately satisfied the stated primary objective of differentiating among the performance of individuals. To facilitate future assessments of this nature, performance marks for all enlisted personnel should be submitted to one location and regularly analyzed.

Secondly, the primary uses of performance marks have been perceived to be advancement in rate and assignment. Marks derived under the present system have not adequately contributed to either of these uses. The actual role of performance in the advancement process has been considerably less than intended. For assignments, performance marks have

played only a minor role and additional information would be required to increase the value of performance appraisals for this use. In both instances the small variance in marks for individuals of the same paygrade has been the major factor in reducing the benefit derived from the performance marks.

A third conclusion was that performance marks have contributed only indirectly or have had no value in satisfying uses identified as secondary. A fourth conclusion was that the current evaluation form has been inadequate and should be replaced by a number of forms tailored to what various groups of enlisted personnel actually do in the performance of their duties.

Another major conclusion was that evaluation submission schedule should be altered to permit staggered submission dates to avoid comparing individuals in one paygrade with others of a different paygrade. Additionally, this change would produce an increase in the amount of time that could be dedicated to evaluating each individual.

The mechanics of the system should be altered to facilitate the training of both raters and reviewers in the proper method and mechanics of evaluating enlisted personnel. Furthermore, the appeal process has been inadequate and requires a complete overhaul.

In addition, the present system has been directed only at satisfying the organizational purpose of aiding and justifying administrative actions. The system has totally ignored the counseling and development purpose for the individual.

Finally, action has been taken to treat a number of symptoms such as creating and utilizing evaluation forms other than the Enlisted Performance Evaluation Worksheet (CG-3788) for certain specific uses, but the underlying illness, that the present system does not adequately and objectively differentiate among the performance of individuals, has been ignored. Rather than perpetuate this practice, the conclusion is made that the present enlisted performance evaluation system should be replaced in its entirety.

III. PROPOSED COAST GUARD ENLISTED PERFORMANCE EVALUATION SYSTEM

The proposed Coast Guard Enlisted Performance Evaluation System consists of a recommended format for the evaluation forms, a methodology for developing the evaluation headings on these forms, and a description of how the system will function over time. The new system is conceived as having two forms, a Significant Incident Form on which reports of observable actions are recorded by the immediate supervisor and an Enlisted Performance Evaluation Form which summarizes the data collected on the Significant Incident Form so as to allow for the necessary interface with other personnel areas such as advancement and assignment. This two-form approach was developed to separate for the immediate supervisor a means of satisfying both the individual's need for counseling and recognition and the organization's need to differentiate between the performance of individuals.

A. DESCRIPTION OF FORMS

Examples of the Significant Incident Form and the Enlisted Performance Evaluation Form are included as Appendices G and H. The evaluation headings on these forms have not been included as they have not as yet been

identified. The methodology to be employed in their identification is, however, described below and in Appendix I.

1. Significant Incident Form

The Significant Incident Form has been developed as a tool for the immediate supervisor for counseling of the ratee while recording objective observations that are to be used in the end of period preparation of the Enlisted Performance Evaluation Form. The Significant Incident Form was adopted in part from John C. Flanagan's "Performance Record" [Ref. 13] published in 1955. Management by Objectives techniques were added to the basic "Performance Record" format in a way that can be successfully employed by a first-line supervisor. The evaluation headings on the Significant Incident Form and the Enlisted Performance Evaluation Form will be the same to ease the transfer of information and to retain objectivity in the assignment of end of period performance evaluations.

The Significant Incident Form consists of one sheet of paper, approximately eleven by sixteen inches, that is folded to make a four-page form. The outside cover contains personal data on the ratee that is the same as that needed to complete the end of period form, a statement of assigned duties and objectives for the period, a record of projects worked on by the ratee during the period, a record of

training accomplishments for the period, and the name and rate of the immediate supervisor.

Pages two and three consist of specific evaluation headings related to the overall evaluation areas of "Performance of Duties" or "Personal Qualities." The specific evaluation headings are designed to channel the immediate supervisor's observations toward those actions that lead to success or failure. Examples of actions that are either positively or negatively related to the specific evaluation headings are also to be listed to further direct the first-line supervisor in identifying appropriate significant incidents. These examples are taken from the initial responses collected for the Echo Technique discussed later and in Appendix H.

Page four of the form consists of a record of counseling sessions. These sessions are documented as to the date and subject of each session and are authenticated by having both the supervisor and ratee initial the form at the end of the counseling session.

2. Enlisted Performance Evaluation Form

The Enlisted Performance Evaluation Form was developed in much the same format as the Coast Guard's officer fitness report forms. The form is a one-page optically scanable report designed to interface with other personnel systems such

as advancement and assignment. For ease of completion and transfer of information, this form will directly parallel the Significant Incident Form for the evaluation of "Performance of Duties" and "Personal Qualities."

The Enlisted Performance Evaluation Form consists of several sections including a personal data section identifying the individual and his or her unit, a description of duties, objectives for the period, a training accomplishments section, the "Performance of Duties" and "Personal Qualities" sections, a "Conduct" section, a comments section, and a recommendation for future assignments section. This last section has been included to afford the command the opportunity to assess an individual's potential for assignment in the areas of independent duty, recruiting and boating safety duty, and instructor duty.

The scored areas of the form consist of the "Performance of Duties," "Personal Qualities," and "Conduct" sections. The first two of these scored areas are completed using the data accumulated on the Significant Incident Form. "Performance of Duties" marks are to reflect past performance during the period. "Personal Qualities" marks are to reflect the individual's potential for advancement. The nine point scale was chosen because of the Coast Guard's experienced success with this scale in the officer fitness report system.

A desired distribution for the overall scores in these two areas is given to aid the commanding officer in marking his personnel. A servicewide "experienced distribution" would eventually replace the "desired distribution" on the initial issue of the form. "Conduct" marks are to be continued on the four point scale and criteria of the present system due to the continuing need for these marks in their present format for such administrative needs as awarding Good Conduct Medals and determining character of service.

The proposed Enlisted Performance Evaluation Form is packaged as a six page unit including one page of instructions, one worksheet, an original of the actual form, and three copies. Carbon paper is included between the original and each of the copies. The worksheet is similar to the actual form with the exception of having space allocated on the reverse side for comments and signatures of all personnel reviewing the form as it proceeds through the chain of command to the commanding officer at the end of the marking period.

B. METHODOLOGY FOR DEVELOPING THE EVALUATION HEADINGS

The method recommended for identification of evaluation headings for the forms is that of the "Echo Multi-Response Method" (Echo Technique) described by Barthol and Bridge

[Ref. 27]. The advantage of the Echo Technique over other methods such as job task analysis or a critical incident technique is that the terms derived through the use of the Echo Technique are in the current jargon of the personnel who will use the form. By identifying the descriptive terms in use by the field, greater face validity and acceptance is anticipated. A detailed description of how the Echo Technique would be employed is included as Appendix I.

The authors considered various methodologies for developing the evaluation areas to be used in the new performance evaluation system. Job task analysis of each paygrade and rating was the initial methodology considered. The data derived for the job task analysis would be clustered using a three-dimensional factor analysis approach where paygrade, rating, and task analysis responses would form the three dimensions. These clusters represent paygrades and ratings performing similar tasks and a separate evaluation form would be developed for each. This methodology was abandoned because the number of people would be exceeded by the number of variables in many of the factor analysis matrix cells, thus degrading the quality of the output of this methodology. Another disadvantage of this methodology is that the reasons why certain clusters were formed will not be apparent. Determination of evaluation headings becomes rather

arbitrary once the factor analysis has been completed. This may reduce the face validity of the new forms. These reasons led to the selection of the Echo Technique for development of the new forms.

The evaluation headings for "Performance of Duty" will vary with paygrade, but if the headings are similar, as may be expected for paygrades with similar duties and responsibilities, composite forms that are clustered by similarities in paygrade may be developed. This would reduce the total number of different forms needed under the proposed system. The paygrades would be clustered by ten of the individuals randomly selected from the group who served as classifiers in the Echo Technique procedure.

Many of the evaluation headings will be abstractions that do not in themselves contribute to the development of a servicewide performance evaluation system. The Significant Incident Form must be annotated with the examples chosen from those used in the Echo Technique to develop the evaluation headings. These terms should also be defined in the instructions accompanying the Enlisted Performance Evaluation Form. Use of techniques such as brainstorming and Mager's Goal Analysis Technique [Ref. 19] should be employed to further define and give examples of the abstract evaluation headings.

The final product of the methodology described above and in Appendix I are terms, in the current jargon of the Coast Guard personnel who will use and be evaluated with the proposed system, that identify areas to be evaluated under the general headings of "Performance of Duty" and "Personal Qualities." Additional guidance is also provided the first-line supervisor through examples of observable actions to be considered in evaluating personnel (provided on the Significant Incident Form) and definitions and general examples of the abstract evaluation headings (provided in the instructions for the Enlisted Performance Evaluation Form).

C. MECHANICS OF THE PROPOSED SYSTEM

1. Training of Personnel

The proposed performance evaluation system is more complex and more ambitious than the present system. Immediate supervisors are not presently trained in the areas of performance evaluation and counseling. Prior to implementation of the proposed system, the first-line supervisors and their seniors in the chain of command must be trained and sufficiently motivated to perform in their new roles. Personnel being evaluated under the proposed system must receive some instruction as to what to expect under the new system. Training is to be conducted at all initial points of entry,

including the Coast Guard Academy, officer candidate school, and recruit training. Class A Schools and petty officer leadership schools are also logical centers for this training. Instruction must be ongoing with personnel performance evaluation and counseling sections added to advancement courses and examinations at the appropriate levels. A handbook for each supervisor is also necessary.

2. Uses of the Significant Incident Form

The Significant Incident Form outlines many of the activities that occur during the evaluation period. The period begins and ends with a Management by Objectives style of interview. Counseling occurs at these sessions and at the time that a significant incident occurs. Significant incidents, those actions that lead to the individual's success or failure, are recorded as they occur with immediate feedback provided to the individual.

The Significant Incident Form is conceived as being used solely within the local command. Under the present enlisted performance evaluation system, there is no equivalent form or procedure for recording observations or for counseling during the period. The primary user of the form is the immediate supervisor who is solely responsible for recording the entries. The Significant Incident Form is the basis for the assignment of end of period (semiannual)

marks in the areas of "Performance of Duties" and "Personal Qualities." At the end of the evaluation period the Significant Incident Form is forwarded with the completed rough copy of the Enlisted Performance Evaluation Form through the chain of command to the commanding officer for his review.

a. The Counseling Schedule

During the initial session the first-line supervisor records the necessary personal data onto the Significant Incident Form. The supervisor outlines the duties and responsibilities of the ratee and then records these on the form. The supervisor and ratee then establish mutually acceptable objectives for the period. The first follow-up meeting is scheduled for one month later.

Informal counseling sessions are to be held at least monthly. At these sessions past performance and progress toward attainment of objectives are reviewed. Objectives may be changed during these mid-period sessions. Significant incidents are discussed with an emphasis on performance improvement and individual development.

The end of period counseling session brings together the ratee, his supervisor, and his supervisor's senior (usually a division officer or department head). The significant incidents that form the objective basis for the

semiannual report are discussed. Successes and failures in meeting the objectives for the period, training accomplishments, recommendation for advancement and advanced training, and other personnel related subjects are also discussed. After reviewing past performance, emphasis is shifted to the future. New objectives and the means for their attainment are mutually agreed upon. In this manner the end of one period is logically fused to the beginning of the next period.

b. Observing and Recording Significant Incidents

Past experience in civilian industry with performance evaluation techniques using forms similar to the proposed Significant Incident Form has demonstrated a need for recording observations on a daily basis [Ref. 12]. This does not mean that every supervisor has to record something on every subordinate every day. It means that all significant incidents observed during any particular day are to be recorded at the end of that day. The supervisor should not attempt to remember significant incidents for several days and record them at a later date. More frequent recording has led to a greater number of observations being recorded and therefore available at the end of the period. The first-line supervisor's senior, usually a division officer or department head, is assigned to check at random intervals for compliance with this daily entry requirement.

3. Uses of the Enlisted Performance Evaluation Form

The Enlisted Performance Evaluation Form is designed to provide the necessary interface between a system oriented towards developing Coast Guard enlisted personnel through observation and counseling, and other personnel areas such as advancement and assignment. The principle use of the Enlisted Performance Evaluation Form is to quantify past performance of duty and personal qualities using the objective information collected as recorded observations on the Significant Incident Form. These quantified evaluations are in a more usable format for comparing the performance of individuals.

Of the many personnel related functions served by the present enlisted performance evaluation system, advancement and assignment are considered to be of primary importance. An evaluation system that differentiates between individuals sufficiently to serve the needs of these primary areas, can be analyzed to develop standards for the secondary areas of selection for proficiency pay, selection for special programs and courses of instruction, determination of type of discharge and desirability for reenlistment, reduction in rate for incompetency, and determination of propriety of early separation by administrative discharge.

a. Quantifying Evaluations

Regardless of how objectively and accurately observations are recorded on the Significant Incident Form during the period, a degree of subjectivity enters the proposed evaluation system process when marks are assigned on the Enlisted Performance Evaluation Form. A conscientious effort has been made to reduce this subjectivity through the training program for raters, a desired or experienced servicewide distribution of marks by paygrade for guidance, and an information system to provide feedback to individual commanding officers. The present performance evaluation system has not addressed any of these areas and as a result each commanding officer sets a different standard based on his own personal experiences. The proposed system attempts to rectify this problem and develop a truly servicewide standard with which to compare individual performance.

b. End of Period Procedures

At the end of an evaluation period, usually six months, the first-line supervisor completes the Enlisted Performance Evaluation Worksheet using the information from the Significant Incident Form and the results of the end of period counseling session. The worksheet and Significant Incident Form are forwarded through the chain of command where additional comments are added. After approval by

the commanding officer, the Enlisted Performance Evaluation Form is typed as an original and three copies and signed by the commanding officer.

One copy of the form is retained by the command, forwarding the original and two copies to the district office where they are checked for completeness. For nonrated personnel the district will file one copy for use in endorsing future personnel matters concerning the individual, use one copy for assignments, and forward the original to headquarters for entry into the individual's service record. For rated personnel the district will retain one copy for use in endorsing future personnel matters concerning the individual. The original and one copy are forwarded to headquarters for entry into the individual's service record and for use in assigning the individual. For all enlisted personnel, the original of the form is optically scanned at headquarters prior to being filed in the individual's service record.

After the district has reviewed a unit's evaluations for completeness, evaluations that are found to be incomplete are returned. The command is also advised at this time to show the unit's copy of the evaluation to these individuals whose evaluations were found to be complete. Confidentiality of the report is maintained until after the

district's review and forwarding to headquarters to curb the inflation usually associated with non-confidential performance evaluation systems [Ref. 30].

Submission dates are to be staggered throughout each semiannual period. The staggering of submission dates allows more time for evaluation and preparation of forms than the present system of evaluating all personnel semi-annually on the same date. For months when more than one paygrade have to be evaluated, dissimilar paygrades will be evaluated so that the evaluation of one paygrade will not influence another.

The Enlisted Performance Evaluation Form must be computer readable for continual analysis of evaluation marks by paygrade and rating. Computer processing of the form also permits the generation of feedback reports to the commanding officer comparing his evaluation with the current experienced servicewide distribution.

An appeals system similar to the one found in the present evaluation system is retained in the proposed system. Enlisted personnel have the right to appeal their marks within thirty days of reviewing their semiannual evaluations. The right of appeal is to be clearly explained at the time that the individual reviews his or her marks.

D. CRITIQUE OF THE PROPOSED SYSTEM

1. Summary of Advantages

The proposed Coast Guard Enlisted Performance Evaluation System has taken into account both individual and organizational needs while remaining within the capabilities of the typical immediate supervisor. The two form approach separates the often conflicting goals of counseling and individual development from personnel evaluation to be used for administrative purposes.

The Significant Incident Form directs the supervisor's attention to those areas of subordinate performance and behavior that are associated with success or failure. Objective observations that relate to the evaluation headings are recorded following the specific examples provided. Counseling and individual development are the principle uses of this form though the information recorded thereon is necessary for objective evaluation of personnel on the Enlisted Performance Evaluation Form. By using the same evaluation headings in the areas of "Performance of Duty" and "Personal Qualities," the transfer of information from one form to the other is accomplished with a minimum of difficulty.

The proposed system contains positive steps to standardize a servicewide evaluation system. Through the

training of personnel, establishing of desired, and later, experienced servicewide distributions, using a feedback system to commanding officers, a more equitable performance evaluation system is derived.

2. Areas Not Previously Addressed

a. Interface with Present System

A conversion table for a one time conversion of performance evaluations from the present system to the new system must be developed. The table must take into account the mean and standard deviation of marks by paygrade and rating under the present system and the desired distribution of the proposed system. Conduct marks do not need to be converted since the proposed system has retained the same scale and methodology as the present system. New standards of performance must be also established for each of the administrative procedures that are dependent upon the performance evaluation system.

b. Differences between Ratings

Construction of the forms for the proposed performance evaluation system assumed a high degree of homogeneity across ratings of the same paygrade. Since personnel compete for advancement and assignment only with other personnel of the same paygrade and rating, any biases in the forms themselves would effect all competing personnel to the same degree.

c. Impact on Servicewide Examination Schedule

The servicewide examinations are now scheduled to follow the semiannual evaluation dates of all personnel. Staggering of evaluation dates by paygrade over a six month period may lead to the necessity of scheduling servicewide examinations by paygrade to correspond with the staggered semiannual evaluation dates.

d. Personnel Working Out of Their Rating

No provision has been made in the proposed system for the use of performance evaluation marks for advancement and assignment for personnel working out of their rating. A possible way of alleviating this problem inherent in both the present and proposed systems is to combine such areas as recruiting, recruit training, and career counseling into one rating, while establishing separate ratings for intelligence and port security. Entrance into these new specialty areas would be at the first class petty officer level. These areas account for the greatest numbers of personnel working out of their rating.

IV. CONCLUSIONS

The Coast Guard Enlisted Performance Evaluation System presently in use does not adequately differentiate between the performance of individuals. The perception held by many users of performance evaluations that marks inflate with an increase in paygrade is supported by the analysis of marks from two major subsets of the enlisted population, those individuals requesting transfers and those recommended for advancement. There is no location where all current enlisted performance evaluation marks are available for analysis and no past studies with which to compare the results of this paper. During the research phase of this study, other areas of the Coast Guard's overall enlisted personnel management program that interface with the performance evaluation system were examined. Future study in the areas of enlisted advancement and assignment was indicated.

Performance evaluation marks have been found to vary by paygrade and community. Marks for proficiency and leadership have been found to be highly correlated indicating that the present system has not been able to adequately measure two distinct traits or attributes. Conduct marks have been found to be almost universally 4.0 but this result was to be

expected since the Personnel Manual indicates that Conduct marks are normally 4.0.

Failure of the present system to adequately differentiate between the performance of individuals has impacted on other personnel areas that are to some degree dependent on performance evaluations. The enlisted advancement system was designed to give a theoretical percentage weight of 27.78 per cent to performance evaluation marks. Due to the small variance that exists in marks for those in competition, the actual percentage weight that can be attributed to performance evaluation marks was 15.33 per cent for all personnel competing in the March 1976 Servicewide Examinations.

The present enlisted performance evaluation system has lost the confidence of the personnel who have used the marks. Another performance appraisal instrument, the "Evaluation Sheet for Appointment to Warrant Grade" (CG-3875) has been instituted to remedy the shortcomings of the present system. Enlisted personnel being reviewed for qualification for officer in charge assignments are presently being screened using a special evaluation form that does not take into account past performance evaluation marks [Ref. 57]. Performance marks have been dropped as a factor in determining qualification for proficiency pay. Assignment officers have expressed a reluctance to use performance marks at face value.

In general the present enlisted performance evaluation system has failed to adequately differentiate between the performance of individuals. Rather than actually treating this problem, the Coast Guard has resorted to treating the symptoms of the problem by developing new forms and evaluation methods designed to bypass the enlisted performance evaluation system. The present system has failed to provide usable individual performance information for related personnel functions.

Counseling for personnel development is virtually nonexistent under the present system. Performance evaluation systems to be effective must be designed to meet organizational and individual needs. The present system does not meet the needs of either.

The proposed enlisted performance evaluation system has been developed to meet the needs of both the organization and the individual. The two form approach was chosen so as to separate to some degree those factors that are in conflict when designing a performance evaluation system to meet both types of needs. The terms used as evaluation headings for both forms are to be developed through the Echo Technique to ensure that behaviors and traits that lead to individual success or failure are identified in the jargon of the personnel who are to use or be evaluated with the proposed system.

For "Performance of Duty" and "Personal Qualities" a nine point scale similar to the one found on officer fitness reports is to be used. Desired or experienced distributions and a servicewide feedback system are designed into the system to aid in the formation of a truly standardized system. Training of personnel is to be an important part of the system's implementation and of the ongoing program. The staggering of submission dates by paygrade is designed to allow more time for the evaluation process.

The Significant Incident Form is directed primarily towards the individual's needs for development and recognition. This form leads the first-line supervisor through the six month evaluation period. Use of the objective information recorded thereon allows for more accurate semi-annual evaluations. The Enlisted Performance Evaluation Form serves as the interface between the performance of the individual and the organization's needs for a quantified performance evaluation that differentiates between individuals.

Prior to servicewide implementation, the system must be evaluated at a representative number of commands and staffs. Leniency, interrater reliability, and test-retest reliability can be evaluated using case studies and during a one year test period in the field. Ease of use by supervisors and

need for training must also be evaluated during this test period. Self-report measures of rater and ratee confidence must also be considered.

After implementation of the proposed system, an automated analysis program must be established to allow for continuous review of evaluation marks by paygrade, rating, command, and community to identify variations in marking standards. The feedback system to commands should be established initially as an advisory program, then as a counseling program conducted at the district level. Experienced service-wide distributions by paygrade should replace desired distributions on the initial issue of the form to instill greater face validity.

The proposed enlisted performance evaluation system has many advantages over the present system. The tradeoff for these advantages is with the amount of time necessary to complete two forms. The proposed two form approach will foster counseling and development of Coast Guard enlisted personnel while generating objective performance evaluations. Other tradeoffs exist when all persons in one paygrade are evaluated on the same form assuming homogeneity of tasks performed by individuals of the same paygrade. As has been discussed, other methodologies could be utilized that avoid

this assumption, but they too have deficiencies. In short a perfect performance evaluation system can never be developed.

In conclusion, it is the opinion of the authors that the proposed enlisted performance evaluation system will significantly enhance the quality of information available to facilitate systematic and equitable judgments for such administrative actions as promotion, transfer, and termination. Furthermore, the proposed system addresses the needs of the individual for counseling and career development. Performance evaluation is not an end in itself, but rather a portion of an overall personnel management system. However, only through analyzing the components of the overall system, identifying their shortcomings, and developing corrective action can we increase the efficiency and effectiveness of the Coast Guard personnel management system.

APPENDIX A

Evaluation of Performance of Enlisted Personnel

Section B--EVALUATION OF PERFORMANCE OF ENLISTED PERSONNEL

10-B-1 GENERAL

(a) General Policy. It is not the policy or the intent of the Commandant to dictate the level of marks to be assigned by commanding officers. It is the intent of this Section to impress upon all commanding officers the importance of an honest evaluation of enlisted personnel under their command and to strive to insure that a uniform system of marking is maintained throughout the Coast Guard according to the guidelines laid down herein. It is of primary importance to differentiate between the outstanding, the excellent, the average, the below average and the unsatisfactory. A marking system serves no other purpose. Application of marks of a unit to an ideal distribution curve is not feasible and therefore is not required or expected. Strict and conscientious use of the Enlisted Performance Evaluation Worksheet (Form CG-3788) and the Conversion Table is all that is required.

(b) Utilization of Marks. Performance marks are used to determine:

(1) A factor for advancement in rate score.

(2) Selection for proficiency pay.

(3) Selection to warrant or commissioned status.

(4) Selection for special programs, projects, and courses of instruction.

(5) Good Conduct Medal.

(6) Type of discharge.

(7) Desirability for reenlistment.

(8) Reduction in rate for incompetency.

(9) Propriety of early separation by administrative discharge.

10-B-2 EVALUATIONS

Evaluations will be made and recorded in three areas of performance designated as Proficiency (P), Leadership (L) and Conduct (C), as follows:

(a) Regular evaluation is one which is made and recorded semiannually as of 30 June and 31 December and which normally covers the entire 6-month period. If a marks entry has been made within the last 3 months, this regular evaluation need not be made.

(b) Special evaluation is one which is made and recorded as of a date other than the regular evaluation date. Special evaluations shall be made and recorded

(1) On advancement to each petty officer rate, and on each change of rate, only if more than 3 months since last marks entry. Marks are assigned for the rate from which advanced or changed and will be dated the day previous to the effective date of advancement or change.

(2) In all cases of reduction in rate, with the exception of incompetency (see Article 5-C-38), only if more than 3 months since last entry. In the case of a member reduced in rate who was not present to be observed in the performance of his duties for a period of 3 months or more since last marks entry, the marks assigned for Proficiency and Leadership will be "IOT" (insufficient observation time). Marks are assigned for the rate from which reduced.

(3) On transfer for permanent change of station or closing out of the service record if more than 3 months since last marks entry.

(4) On transfer for temporary additional duty or upon hospitalization if more than 3 months since last marks entry and if it is expected that the transferee will not have returned to his permanent duty station by the next prescribed evaluation date.

(5) On transfer from more than 3 months' TD, TAD, or hospitalization if more than 3 months since last marks entry.

(6) Upon completion of recruit training (conduct only).

(7) At any additional time a commanding officer considers appropriate.

(c) In case an individual is in a disciplinary status or is an unauthorized absentee on the date of evaluation, whether regular or special, each trait other than conduct shall be entered. After disposition of the case, a memorandum entry for conduct shall be made on page 6 of the service record to show the mark awarded and to be effective as of the date it normally should have been made. Marks entries will not be made for other intervening scheduled evaluations occurring during an unauthorized absence.

(d) A special evaluation made in accordance with (b) above, for periods under recruit training, hospitalization or confinement, shall be made only in Conduct.

Personnel under instruction other than recruit training will be marked only in Conduct during such instruction. The marks assigned for Proficiency and Leadership will be "SUT" (Student Undergoing Training).

(e) Personnel in pay grades E-1 and E-2 are not required to be marked in the Leadership trait. The minimum period required for a special evaluation and the relative importance of the use of the marks require that all enlisted personnel in pay grade E-3 and above continue to be assigned marks in all traits.

10-B-3 GUIDE FOR USE IN EVALUATING

(a) Evaluations should reflect an individual's performance since his last recorded evaluation. The evaluation of instructors or recruiters will reflect instructor or recruiting performance. Likewise, if the individual during the marking period is performing duty outside of his technical area such as master-at-arms, etc., the evaluation will reflect how well the person is performing the special duty.

(b) Based upon recognition of the fact that the vast majority of enlisted personnel are competent in the performance of their duties, the officers responsible for awarding marks should conscientiously try to differentiate between the degree of performance demonstrated by individuals in the same pay grade.

(c) There must inevitably be a higher standard of required, as well as actual, performance with each higher pay grade. This results from increasing experience level and stature with each higher pay grade and the fact that those individuals of lesser performance are eliminated by competition for advancement. In view of this inherent increasing level of performance, it must be remembered that individuals within a pay grade are evaluated against the performance of others in the same pay grade and not against that of personnel in higher or lower pay grades.

10-B-4 THE EVALUATION PROCESS

(a) Immediate Supervisor

(1) The process of evaluation on an enlisted member starts with the immediate supervisor. This petty officer, division officer or civilian supervisor evaluates each member under his/her responsibility in comparison with all the rest of the personnel known in the same pay grade and not only with those in the presently assigned unit or office. After evaluation, the supervisor completes the Enlisted Performance Evaluation Worksheet (Form CG-3788) on each member evaluated. In the instance of civilian supervisors, care should be taken to insure that equitable performance standards are applied to the evaluation process. Guidance may be sought from the next immediate military superior.

(2) How To Complete the Enlisted Performance Evaluation Worksheet (Form CG-3788)

a. For each man you are going to mark, fill in the information required in the spaces at the top and bottom of the form.

b. Read the instructions on the form. For each trait, read all the descriptions in the boxes.

c. When you evaluate the man, compare him with others of the same pay grade. Ask yourself "How well is he performing the required duties of his grade in his assigned billet?" If his major duties have not been those generally required by his rate during the period for which he is being marked, mark him on what he actually did and how well he did it. Then describe what he did in the "Comments" section. Decide which description fits the man best. Place a checkmark in the boxes beside the description.

d. Notice that for each trait, the boxes at the extreme top and bottom are starred. This means that a mark in any of these boxes must be explained in the "Comments" section. The explanation should give examples of performance, good or bad, to show why the mark was assigned.

(b) The Commanding Officer

(1) The commanding officer or officer in charge is responsible for the final evaluation and determination of the marks to be assigned in the three traits. This officer should realize that his responsibility includes modifying the worksheet in accordance with his judgment as well as that of converting the evaluation to a mark. He shall consider the initial evaluation (Form CG-3788), entries on pages 4, 7 and 12 of the individual service record, the unit punishment book and other records in assigning marks from the table contained in Article 10-B-5. Commanding officers may mark higher or lower than the stated standards when their judgment of an enlisted person's performance indicates that a more accurate evaluation would result.

(2) Conduct

a. It is anticipated that the majority of individuals who have no offenses will be marked 4.0 in Conduct.

b. For courts-martial offenses consideration should be given not only to the type of court or punishment adjudged, but also the type and seriousness of the offense committed.

c. Considerable latitude is permitted in assigning marks for a period where minor offenses are involved. The commanding officer must consider the type and seriousness of the offense(s), and may, for repeated offenders, mark in the 1.9-0 zone. On the other hand, while the 3.9 - 3.3 zone is normally reserved for the enlisted person committing not more than one minor offense, the commanding officer may use this zone for the enlisted person committing more than one minor offense which the commanding officer does not consider to warrant a lower mark.

d. It is the responsibility of the commanding officer to determine if a civil offense which results in conviction, action that amounts to a finding of guilt, or forfeiture of bail is of a minor or major nature as compared to similar offenses covered by the Uniform Code of Military Justice.

1. Certain civil convictions such as parking violations or speeding a few miles in excess of a speed limit must be evaluated carefully to avoid inappropriate and unjust lowering of Conduct marks. Very minor civil offenses should be treated as offenses not warranting punishment.

2. If determined to be a minor offense, it should be treated as a non-judicial punishment. If determined to be a major offense, it should be treated as a court-martial.

e. Whenever a mark below 3.3 is assigned in Conduct, and the service record contains no entries during the marking period to substantiate such a mark, a page 7 entry of explanation must be made.

(3) Proficiency and Leadership. These marks shall be assigned with care so that each man is accurately evaluated in relation to others in his pay grade.

10-B-5 CONVERSION TABLE

(a) Proficiency and Leadership

Proficiency		Leadership
(His skill, efficiency, and knowledge of his specialty. His demonstrated ability to perform effectively.)		(His ability to plan and assign work to others, and to effectively direct their activities and his ability to maintain proper military relationships with other service personnel. Ability to recognize and carry out his civil rights/human relations responsibilities.)
For his pay grade, he is IDEAL. Little room for improvement. Maximum professional knowledge. Exceptional skill and judgment. Requires no supervision and minimum guidance.	* 4.0	For his pay grade, he is IDEAL. Inspires highest confidence and morale. Outstanding skill in directing others. Uniform immaculate. Fine military bearing. Outstanding initiative.
For his pay grade, he is OUTSTANDING in professional knowledge, skill and judgment. Needs no supervision for routine matters and minimum supervision for new situations.	3.9 3.8	For his pay grade, he is OUTSTANDING. Inspires high morale and confidence. Very effective in difficult circumstances. Outstanding petty officer material. Great pride in uniform. Excellent military bearing. Excellent initiative.
For his pay grade, he is EXCELLENT. Has very effective knowledge, skill and judgment. Needs no supervision for routine matters but moderate supervision for new situations. Does well on his own. Very well qualified for advancement.	3.7 3.6	For his pay grade, he is EXCELLENT. Promotes morale and confidence. Effective at most times. Gives orders well. Excellent petty officer material. Pride in uniform. Military. Strong initiative.
For his pay grade, he is ABOVE AVERAGE. Good knowledge of rate. Skilled. Needs minimum supervision for routine matters. Works well on his own for limited periods and details. Well qualified for advancement.	3.5 3.4	For his pay grade, he is ABOVE AVERAGE. Develops good cooperation and teamwork. Maintains good morale and respect. Makes orders effective. Very good petty officer material. Military and wears uniform well. Good initiative.
For his pay grade, he is AVERAGE. Knows rate satisfactorily. Needs minimum supervision for routine work assignments. Qualified for advancement.	3.3	For his pay grade, he is AVERAGE. Maintains morale and respect. Gets adequate results from his men. Good petty officer material. Presents good bearing and appearance. Has initiative.
For his pay grade, he is SLIGHTLY BELOW AVERAGE in knowledge and effectiveness. Normal supervision needed in almost all assignments. Additional training and/or experience will qualify him for advancement.	3.2	For his pay grade, he is SLIGHTLY BELOW AVERAGE. Maintains own morale. Achieve fair results. Fair petty officer material. Good appearance most of the time.

Proficiency		Leadership
For his pay grade, he is BELOW AVERAGE in proficiency, effectiveness, and skill. Does well when supervised but is somewhat inadequate unless guided. Promotion material only after additional training and experience.	3.1 3.0	For his pay grade, he is BELOW AVERAGE. Usually maintains morale. Potential petty officer material. Gets fair results at times. Fair appearance. Below average initiative.
For his pay grade, he is WELL BELOW AVERAGE in effectiveness, proficiency, and skill. Barely satisfactory. Close supervision required. Good work offset by frequent poor performance.	2.9 2.8 2.7 2.6 2.5	For his pay grade, he is WELL BELOW AVERAGE. Morale falls off. No initiative. Seldom gets good results. Possible petty officer material with hard work. Poor appearance on many occasions.
For his pay grade, he is UNSATISFACTORY. Poor in skill and effectiveness. Competency questionable. Needs constant supervision. Candidate for disrating unless improvement is shown.	* 2.4 2.3 2.2 2.1 2.0	For his pay grade, he is INADEQUATE. Poor morale. No initiative or interest in improvement. Often in trouble. Very poor petty officer material. Evades responsibility. Nonregulation. Wears uniform improperly.
For his pay grade, he is GROSSLY INADEQUATE. Incompetent in simplest tasks. Disrating or separation action in order or being taken.	* 1.9 to 0.0	For his pay grade, he is GROSSLY INADEQUATE. Negative morale and initiative. May be "ringleader" when in trouble. Constant source of irritation. No petty officer potential. Sloppy appearance.

(b) Conduct

4.0	3.9 to 3.3	3.2 to 2.5	2.4 to 0
Conduct good. Conforms to military standards and regulations. No courts-martial convictions, nonjudicial punishment or minor civil convictions.	Conduct satisfactory but occasionally lax. No courts-martial convictions. Not more than one nonjudicial punishment or minor civil conviction.	Meets minimum standards of conduct, or not more than one summary court-martial conviction, or not more than 2 minor offenses (NJP or civil) during the period.	Conduct unsatisfactory. Repeatedly commits minor military and/or civil offenses or convicted by special or general court-martial.

10-B-6 CORRECTIONS OR CHANGES IN EVALUATION MARKS

A commanding officer is authorized to correct or change any performance of duty marks which were assigned by him. The commanding officer is also authorized to correct performance of duty marks assigned by another command where it is obvious that a mark has been assigned which is contrary to instructions which were in effect at the time the mark was assigned. In such cases a full explanation shall be forwarded to the Commandant (G-PE) when the corrections are made. In addition, a short explanation of the reason for the change shall be inserted on page 6 (Form CG-3306) as near as possible to the corrected mark(s). All changes or corrections will be made in ink and signed in full, including title of the officer making the change or correction. Erasures shall not be made. If marks assigned include consideration of offenses committed for which punishment was awarded and the proceedings are subsequently set aside, such marks shall be reevaluated and properly reentered on page 6.

✱10-B-7 PROCEDURE TO APPEAL ASSIGNED MARKS

(a) An enlisted member who considers the marks assigned to him unjust may, through proper channels, appeal to the district commander or, if assigned to a Headquarters unit, to Commandant (G-PE). Such appeal will be forwarded and decided promptly. Marking officers shall establish suitable internal procedures to assure that each enlisted person is afforded the opportunity to see his own marks promptly after they are entered in his service record and that he is apprised of the right to appeal provided in this Article. Counseling and clerical assistance to prepare appeal shall be provided. An appeal not made within a reasonable time may be rejected by the superior authority. In the absence of unusual circumstances, an appeal made more than 30 days after the marks were assigned may be considered as not having been made within a reasonable time. Appeals shall be made in writing and shall include the appellant's reasons for regarding the marks unjust. In acting upon an appeal the superior authority may raise the marks of the appellant or leave them unchanged. He may not lower any marks assigned by the commanding officer or officer in charge.

(b) Appraisals of one human being by another are inherently subjective in nature. Even when the person being appraised perceives no difference in his performance from one period to the next, small variations in marks received from the same marking officer may be expected. Such variations are even more likely when there has been a change in marking officer. It is not intended that the appeal procedure be used merely to dispute the judgment of the marking officer. Thus, an individual who in the previous marking period received a mark of 3.3 and subsequently is assigned a mark of 3.4 would ordinarily have no basis upon which to appeal. The appeal procedure is to allow for review of low marks assigned to an individual when he feels that the low marks were based upon incorrect information, prejudice, discrimination or are disproportionately low for the particular circumstances.

APPENDIX B

Enlisted Performance Evaluation Worksheet

TREASURY DEPARTMENT U. S. COAST GUARD CG-3788 (Rev. 2-61)	ENLISTED PERFORMANCE EVALUATION WORKSHEET		
NAME (Last, First, Middle)	SERVICE NUMBER	RATE ABB.	UNIT OR DIVISION

INSTRUCTIONS

1. Complete the information required in the spaces for each man evaluated. Mark Proficiency and Leadership in spaces provided and Conduct on reverse.
2. For each trait, evaluate the man on his actual performance.
3. Consider the requirements of his rate, the performance of others in his rate and his ability in duties outside his rate.
4. If the major portion of his work has been outside his rating or pay grade during this reporting period, evaluate him on what he did, as compared to what a man of his rate would normally be expected to do. Describe what he did in the "Comments" section.
5. Pick the phrase which best fits the man in each trait and check the box beside it. The top box is always a little better than the next lower one. Be impartial. Avoid personal likes and dislikes. Be firm. Make your marks reflect how the man has actually performed. Do not guess. Do not form your opinions from isolated incidents. Do not be influenced by rumors. *Your duty requires that you evaluate each man as accurately as possible.*
6. Note that some of the boxes on the extreme top and bottom of the form are starred and require that a mark in any of these boxes must be explained. The explanations should give examples in the "Comments" section, good or bad, to show why the mark was assigned.

PROFICIENCY		LEADERSHIP	
(His skill, efficiency, and knowledge of his specialty. His demonstrated ability to perform effectively.)		*(His ability to plan and assign work to others, and to effectively direct their activities and his ability to maintain proper military relationships with other service personnel.)*	
For his pay grade, he is *IDEAL.* Little room for improvement. Maximum professional knowledge. Exceptional skill and judgment. Requires no supervision and minimum guidance.	*	*	*For his pay grade,* he is *IDEAL.* Inspires highest confidence and morale. Outstanding skill in directing others. Uniform immaculate. Fine military bearing. Outstanding initiative.
For his pay grade, he is *OUTSTANDING* in professional knowledge, skill, and judgment. Needs no supervision for routine matters and minimum supervision for new situations.			*For his pay grade,* he is *OUTSTANDING.* Inspires high morale and confidence. Very effective in difficult circumstances. Outstanding petty officer material. Great pride in uniform. Excellent military bearing. Excellent initiative.
For his pay grade, he is *EXCELLENT.* Has very effective knowledge, skill, and judgment. Needs no supervision for routine matters but moderate supervision for new situations. Does well on his own. Very well qualified for advancement.			*For his pay grade,* he is *EXCELLENT.* Promotes morale and confidence. Effective at most times. Gives orders well. Excellent petty officer material. Pride in uniform. Military bearing. Strong initiative.
For his pay grade, he is *ABOVE AVERAGE.* Good knowledge of rate. Skilled. Needs minimum supervision for routine matters. Works well on his own for limited periods and details. Well qualified for advancement.			*For his pay grade,* he is *ABOVE AVERAGE.* Develops good cooperation and teamwork. Maintains good morale and respect. Makes orders effective. Very good petty officer material. Military and wears uniform well. Good initiative.
For his pay grade, he is *AVERAGE.* Knows rate satisfactorily. Needs minimum supervision for routine work assignments. Qualified for advancement.			*For his pay grade,* he is *AVERAGE.* Maintains morale and respect. Gets adequate results from his men. Good petty officer material. Presents good bearing and appearance. Has initiative.
For his pay grade, he is *SLIGHTLY BELOW AVERAGE* in knowledge and effectiveness. Normal supervision needed in almost all assignments. Additional training and/or experience will qualify him for advancement.			*For his pay grade,* he is *SLIGHTLY BELOW AVERAGE.* Maintains own morale. Achieves fair results. Fair petty officer material. Good appearance most of the time.
For his pay grade, he is *BELOW AVERAGE* in proficiency, effectiveness, and skill. Does well when supervised but is somewhat inadequate unless guided. Promotion material only after additional training and experience.			*For his pay grade,* he is *BELOW AVERAGE.* Usually maintains morale. Potential petty officer material. Gets fair results at times. Fair appearance. Below average initiative.
For his pay grade, he is *WELL BELOW AVERAGE* in effectiveness, proficiency and skill. Barely satisfactory. Close supervision required. Good work offset by frequent poor performance.			*For his pay grade,* he is *WELL BELOW AVERAGE.* Morale falls off. No initiative. Seldom gets good results. Possible petty officer material with hard work. Poor appearance on many occasions.
For his pay grade, he is *UNSATISFACTORY.* Poor in skill and effectiveness. Competency questionable. Needs constant supervision. Candidate for disrating unless improvement is shown.	*	*	*For his pay grade,* he is *INADEQUATE.* Poor morale No initiative or interest in improvement. Often in trouble. Very poor petty officer material. Evades responsibility. Non-regulation. Wears uniform improperly.
For his pay grade, he is *GROSSLY INADEQUATE.* Incompetent in simplest tasks. Disrating or separation action in order or being taken.	*	*	*For his pay grade,* he is *GROSSLY INADEQUATE.* Negative morale and initiative. May be "ringleader" when in trouble. Constant source of irritation. No petty officer potential. Sloppy appearance.

PREVIOUS EDITIONS ARE OBSOLETE

CONDUCT (*Check in space below applicable block*)			
Conduct good. Conforms to military standards and regulations. No court-martial convictions, non-judicial punishment or minor civil convictions.	Conduct satisfactory but occasionally lax. No court-martial convictions. Not more than one non-judicial punishment or minor civil conviction.	Meets minimum standards of conduct, or not more than one summary court-martial conviction, or not more than 2 minor offenses (NJP or civil) during the period.	Conduct unsatisfactory. Repeatedly commits minor military and/or civil offenses or convicted by special or general court-martial.

COMMENTS *(If additional space is needed, use another sheet and number it page 2)*

REASON FOR REPORTING	DATE	SIGNATURE OF REPORTING SUPERIOR
☐ SEMIANNUAL ☐ OTHER *(Specify)* ☐ TRANSFER _____		

RETAIN COMPLETED FORM AT THE UNIT FOR 30 DAYS AFTER THE DATE OF ENTRY OF THE MARKS IN THE SERVICE RECORD; THEN DESTROY. DO NOT FILE FORM IN THE SERVICE RECORD.

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APPENDIX C

Ratings Comprising Each Enlisted Community

Community/ Category	Category Number	Ratings
General Service	1	Boatswain's Mate (BM) Damage Controlman (DC) Dental Technician (DT) Electrician's Mate (EM) Electronics Technician (ET) Electronics Technician (Communications) (ETN) Hospital Corpsman (HM) Machinery Technician (MK) Photojournalist (PA) Musician (MU) Radioman (RM) Storekeeper (SK) Subsistence Specialist (SS) Telephone Technician (TT) Yeoman (YN)
Shipboard	2	Fire Control Technician (FT) Gunner's Mate (GM) Marine Science Technician (MST) Quartermaster (QM) Radarman (RD) Sonar Technician (ST)
Aviation	3	Aviation Machinist Mate (AD) Aviation Electrician's Mate (AE) Aviation Structural Mechanic (AM) Aviation Survivalman (ASM) Aviation Electronics Technician (AT)

APPENDIX D

Analysis of Coast Guard-wide Sample of Performance Marks for 31 December 1975

As previously described a sample of 2310 sets of enlisted performance marks was collected from the Enlisted Assignment/ Data Forms (CG-4526) on file with the Central Assignment Control (CAC) officers in the Enlisted Personnel Assignment Branch of Coast Guard headquarters with the majority of non-rated marks being obtained from the Third Coast Guard District. The "Statistical Package for the Social Sciences" [Ref. 29], a computer software package available at the Naval Postgraduate School, was utilized for computing the distribution of these marks.

In the tabular presentation of results that follows, several statistical terms which might be unfamiliar to the reader have been utilized. Kurtosis was a measure of relative flatness or peakedness of the distribution. The kurtosis of a normal distribution would be zero while a positive kurtosis indicates that the distribution was more peaked or narrow than a normal distribution and a negative value indicates the reverse. Skewness measured the deviation from symmetry. The skewness of a normal distribution would be zero while a positive value for skewness indicates that

the cases were clustered more to the left of the mean with most of the extreme values to the right and a negative value indicates the reverse.

Analysis of Coast Guard-wide Sample of Performance Marks for 31 December 1975

Paygrades E-2 through E-9

Number of cases = 2310
(2230 for leadership since E-2's are not assigned a leadership mark)

Proficiency Mark					
Mean	3.618	Range	1.500	Kurtosis	-0.332
Variance	0.042	Maximum	4.000	Skewness	-0.356
Std Deviation	0.205	Minimum	2.500	Std Error	0.004
Leadership Mark					
Mean	3.578	Range	1.500	Kurtosis	-0.149
Variance	0.046	Maximum	4.000	Skewness	-0.236
Std Deviation	0.214	Minimum	2.500	Std Error	0.005
Conduct Mark					
Mean	3.996	Range	1.000	Kurtosis	227.777
Variance	0.002	Maximum	4.000	Skewness	-14.353
Std Deviation	0.047	Minimum	3.000	Std Error	0.001

Pearson Correlation Coefficient for Intercorrelation between the Proficiency Mark and the Leadership Mark.

Correlation Coefficient	Number of Cases	Level of Significance
R=0.9017	N=2230	p=0.001

Analysis of Coast Guard-wide Sample of Performance Marks for 31 December 1975

Paygrade E-9 — Number of cases = 59

Proficiency Mark					
Mean	3.875	Range	0.700	Kurtosis	6.980
Variance	0.016	Maximum	4.000	Skewness	-2.262
Std Deviation	0.125	Minimum	3.300	Std Error	0.016
Leadership Mark					
Mean	3.863	Range	0.700	Kurtosis	4.157
Variance	0.018	Maximum	4.000	Skewness	-1.755
Std Deviation	0.135	Minimum	3.300	Std Error	0.018
Conduct Mark					
Mean	4.000	Range	0.000	Kurtosis	0.000
Variance	0.000	Maximum	4.000	Skewness	0.000
Std Deviation	0.000	Minimum	4.000	Std Error	0.000

Pearson Correlation Coefficient for Intercorrelation between the Proficiency Mark and the Leadership Mark.

Correlation Coefficient	Number of Cases	Level of Significance
R=0.9307	N=59	p=0.001

Paygrade E-8 — Number of cases = 99

Proficiency Mark					
Mean	3.838	Range	1.000	Kurtosis	15.125
Variance	0.017	Maximum	4.000	Skewness	-2.966
Std Deviation	0.132	Minimum	3.000	Std Error	0.013
Leadership Mark					
Mean	3.812	Range	0.800	Kurtosis	5.074
Variance	0.016	Maximum	4.000	Skewness	-1.597
Std Deviation	0.126	Minimum	3.000	Std Error	0.013
Conduct Mark					
Mean	4.000	Range	0.000	Kurtosis	0.000
Variance	0.000	Maximum	4.000	Skewness	0.000
Std Deviation	0.000	Minimum	4.000	Std Error	0.000

Pearson Correlation Coefficient for Intercorrelation between the Proficiency Mark and the Leadership Mark.

Correlation Coefficient	Number of Cases	Level of Significance
R=0.8690	N=99	p=0.001

Analysis of Coast Guard-wide Sample of Performance Marks for 31 December 1975

Paygrade E-7 — Number of cases = 301

Proficiency Mark					
Mean	3.779	Range	0.900	Kurtosis	2.842
Variance	0.018	Maximum	4.000	Skewness	-1.380
Std Deviation	0.134	Minimum	3.100	Std Error	0.008
Leadership Mark					
Mean	3.745	Range	0.900	Kurtosis	1.246
Variance	0.024	Maximum	4.000	Skewness	-1.057
Std Deviation	0.154	Minimum	3.100	Std Error	0.009
Conduct Mark					
Mean	4.000	Range	0.000	Kurtosis	0.000
Variance	0.000	Maximum	4.000	Skewness	0.000
Std Deviation	0.000	Minimum	4.000	Std Error	0.000

Pearson Correlation Coefficient for Intercorrelation between the Proficiency Mark and the Leadership Mark.

Correlation Coefficient	Number of Cases	Level of Significance
R=0.8569	N=301	p=0.001

Paygrade E-6 — Number of cases = 544

Proficiency Mark					
Mean	3.693	Range	1.000	Kurtosis	0.685
Variance	0.028	Maximum	4.000	Skewness	-0.848
Std Deviation	0.167	Minimum	3.000	Std Error	0.007
Leadership Mark					
Mean	3.652	Range	0.800	Kurtosis	-0.435
Variance	0.031	Maximum	4.000	Skewness	-0.494
Std Deviation	0.177	Minimum	3.200	Std Error	0.008
Conduct Mark					
Mean	4.000	Range	0.200	Kurtosis	539.002
Variance	0.000	Maximum	4.000	Skewness	-23.259
Std Deviation	0.009	Minimum	3.800	Std Error	0.000

Pearson Correlation Coefficient for Intercorrelation between the Proficiency Mark and the Leadership Mark.

Correlation Coefficient	Number of Cases	Level of Significance
R=0.8699	N=544	p=0.001

Analysis of Coast Guard-wide Sample of Performance Marks for 31 December 1975

Paygrade E-5 — Number of cases = 472

Proficiency Mark					
Mean	3.614	Range	0.900	Kurtosis	-0.242
Variance	0.027	Maximum	4.000	Skewness	-0.409
Std Deviation	0.164	Minimum	3.100	Std Error	0.008
Leadership Mark					
Mean	3.552	Range	0.800	Kurtosis	-0.364
Variance	0.029	Maximum	3.900	Skewness	-0.179
Std Deviation	0.169	Minimum	3.100	Std Error	0.008
Conduct Mark					
Mean	3.995	Range	1.000	Kurtosis	191.543
Variance	0.004	Maximum	4.000	Skewness	-13.464
Std Deviation	0.061	Minimum	3.000	Std Error	0.003

Pearson Correlation Coefficient for Intercorrelation between the Proficiency Mark and the Leadership Mark.

Correlation Coefficient	Number of Cases	Level of Significance
R=0.8362	N=472	p=0.001

Paygrade E-4 — Number of cases = 675

Proficiency Mark					
Mean	3.488	Range	1.100	Kurtosis	0.276
Variance	0.027	Maximum	4.000	Skewness	0.039
Std Deviation	0.165	Minimum	2.900	Std Error	0.006
Leadership Mark					
Mean	3.427	Range	1.400	Kurtosis	1.965
Variance	0.028	Maximum	3.900	Skewness	-0.069
Std Deviation	0.166	Minimum	2.500	Std Error	0.006
Conduct Mark					
Mean	3.992	Range	0.800	Kurtosis	106.119
Variance	0.004	Maximum	4.000	Skewness	-9.995
Std Deviation	0.063	Minimum	3.200	Std Error	0.002

Pearson Correlation Coefficient for Intercorrelation between the Proficiency Mark and the Leadership Mark.

Correlation Coefficient	Number of Cases	Level of Significance
R=0.8081	N=675	p=0.001

Analysis of Coast Guard-wide Sample of Performance Marks for 31 December 1975

Paygrade E-3 — Number of cases = 80

Proficiency Mark					
Mean	3.430	Range	1.300	Kurtosis	6.109
Variance	0.035	Maximum	3.800	Skewness	-1.373
Std Deviation	0.186	Minimum	2.500	Std Error	0.021
Leadership Mark					
Mean	3.371	Range	1.300	Kurtosis	6.749
Variance	0.034	Maximum	3.800	Skewness	-1.513
Std Deviation	0.184	Minimum	2.500	Std Error	0.021
Conduct Mark					
Mean	3.991	Range	0.500	Kurtosis	64.072
Variance	0.003	Maximum	4.000	Skewness	-7.920
Std Deviation	0.058	Minimum	3.500	Std Error	0.006

Pearson Correlation Coefficient for Intercorrelation between the Proficiency Mark and the Leadership Mark.

Correlation Coefficient	Number of Cases	Level of Significance
R=0.8606	N=80	p=0.001

Paygrade E-2 — Number of cases = 80

Proficiency Mark					
Mean	3.356	Range	0.600	Kurtosis	1.905
Variance	0.013	Maximum	3.700	Skewness	1.205
Std Deviation	0.116	Minimum	3.100	Std Error	0.013
Leadership Mark - NA					
Mean		Range		Kurtosis	
Variance		Maximum		Skewness	
Std Deviation		Minimum		Std Error	
Conduct Mark					
Mean	3.986	Range	0.500	Kurtosis	43.259
Variance	0.004	Maximum	4.000	Skewness	-6.267
Std Deviation	0.063	Minimum	3.500	Std Error	0.007

Pearson Correlation Coefficient for Intercorrelation between the Proficiency Mark and the Leadership Mark cannot be computed for paygrade E-2 since no leadership marks are assigned.

Analysis of Coast Guard-wide Sample of Performance Marks for 31 December 1975

Category 1, Paygrade E-9 — Number of cases = 47

Proficiency Mark					
Mean	3.868	Range	0.700	Kurtosis	6.846
Variance	0.017	Maximum	4.000	Skewness	-2.246
Std Deviation	0.130	Minimum	3.300	Std Error	0.019
Leadership Mark					
Mean	3.855	Range	0.700	Kurtosis	4.480
Variance	0.019	Maximum	4.000	Skewness	-1.817
Std Deviation	0.138	Minimum	3.300	Std Error	0.020
Conduct Mark					
Mean	4.000	Range	0.000	Kurtosis	0.000
Variance	0.000	Maximum	4.000	Skewness	0.000
Std Deviation	0.000	Minimum	4.000	Std Error	0.000

Pearson Correlation Coefficient for Intercorrelation between the Proficiency Mark and the Leadership Mark.

Correlation Coefficient	Number of Cases	Level of Significance
R=0.9457	N=47	p=0.001

Category 1, Paygrade E-8 — Number of cases = 67

Proficiency Mark					
Mean	3.828	Range	1.000	Kurtosis	14.339
Variance	0.021	Maximum	4.000	Skewness	-3.093
Std Deviation	0.145	Minimum	3.000	Std Error	0.018
Leadership Mark					
Mean	3.807	Range	0.800	Kurtosis	4.462
Variance	0.019	Maximum	4.000	Skewness	-1.615
Std Deviation	0.140	Minimum	3.200	Std Error	0.017
Conduct Mark					
Mean	4.000	Range	0.000	Kurtosis	0.000
Variance	0.000	Maximum	4.000	Skewness	0.000
Std Deviation	0.000	Minimum	4.000	Std Error	0.000

Pearson Correlation Coefficient for Intercorrelation between the Proficiency Mark and the Leadership Mark.

Correlation Coefficient	Number of Cases	Level of Significance
R=0.8846	N=67	p=0.001

Analysis of Coast Guard-wide Sample of Performance Marks for 31 December 1975

Category 1, Paygrade E-7 — Number of cases = 208

Proficiency Mark					
Mean	3.774	Range	0.900	Kurtosis	3.238
Variance	0.020	Maximum	4.000	Skewness	-1.525
Std Deviation	0.140	Minimum	3.100	Std Error	0.010
Leadership Mark					
Mean	3.742	Range	0.900	Kurtosis	1.569
Variance	0.025	Maximum	4.000	Skewness	-1.188
Std Deviation	0.157	Minimum	3.100	Std Error	0.011
Conduct Mark					
Mean	4.000	Range	0.000	Kurtosis	0.000
Variance	0.000	Maximum	4.000	Skewness	0.000
Std Deviation	0.000	Minimum	4.000	Std Error	0.000

Pearson Correlation Coefficient for Intercorrelation between the Proficiency Mark and the Leadership Mark.

Correlation Coefficient	Number of Cases	Level of Significance
R=0.8790	N=208	p=0.001

Category 1, Paygrade E-6 — Number of cases = 429

Proficiency Mark					
Mean	3.677	Range	1.000	Kurtosis	0.632
Variance	0.028	Maximum	4.000	Skewness	-0.849
Std Deviation	0.167	Minimum	3.000	Std Error	0.008
Leadership Mark					
Mean	3.636	Range	0.800	Kurtosis	-0.507
Variance	0.031	Maximum	4.000	Skewness	-0.488
Std Deviation	0.175	Minimum	3.200	Std Error	0.008
Conduct Mark					
Mean	4.000	Range	0.200	Kurtosis	424.002
Variance	0.000	Maximum	4.000	Skewness	-20.640
Std Deviation	0.010	Minimum	3.800	Std Error	0.000

Pearson Correlation Coefficient for Intercorrelation between the Proficiency Mark and the Leadership Mark.

Correlation Coefficient	Number of Cases	Level of Significance
R=0.8694	N=429	p=0.001

Analysis of Coast Guard-wide Sample of Performance Marks for 31 December 1975

Category 1, Paygrade E-5 — Number of cases = 346

Proficiency Mark					
Mean	3.607	Range	0.900	Kurtosis	-0.201
Variance	0.027	Maximum	4.000	Skewness	-0.402
Std Deviation	0.166	Minimum	3.100	Std Error	0.009
Leadership Mark					
Mean	3.545	Range	0.800	Kurtosis	-0.375
Variance	0.029	Maximum	3.900	Skewness	-0.201
Std Deviation	0.170	Minimum	3.100	Std Error	0.009
Conduct Mark					
Mean	3.998	Range	0.700	Kurtosis	327.496
Variance	0.001	Maximum	4.000	Skewness	-18.016
Std Deviation	0.038	Minimum	3.300	Std Error	0.002

Pearson Correlation Coefficient for Intercorrelation between the Proficiency Mark and the Leadership Marks.

Correlation Coefficient	Number of Cases	Level of Significance
R=0.8346	N=346	p=0.001

Category 1, Paygrade E-4 — Number of cases = 537

Proficiency Mark					
Mean	3.481	Range	1.100	Kurtosis	0.448
Variance	0.028	Maximum	4.000	Skewness	0.068
Std Deviation	0.166	Minimum	2.900	Std Error	0.007
Leadership Mark					
Mean	3.420	Range	1.400	Kurtosis	2.432
Variance	0.028	Maximum	3.900	Skewness	-0.143
Std Deviation	0.166	Minimum	2.500	Std Error	0.007
Conduct Mark					
Mean	3.992	Range	0.700	Kurtosis	97.136
Variance	0.004	Maximum	4.000	Skewness	-9.540
Std Deviation	0.061	Minimum	3.300	Std Error	0.003

Pearson Correlation Coefficient for Intercorrelation between the Proficiency Mark and the Leadership Mark.

Correlation Coefficient	Number of Cases	Level of Significance
R=0.8209	N=537	p=0.001

Analysis of Coast Guard-wide Sample of Performance Marks for 31 December 1975

Category 2, Paygrade E-9 — Number of cases = 6[3]

Proficiency Mark					
Mean	3.883	Range	0.400	Kurtosis	0.484
Variance	0.022	Maximum	4.000	Skewness	-1.343
Std Deviation	0.147	Minimum	3.600	Std Error	0.060
Leadership Mark					
Mean	3.883	Range	0.400	Kurtosis	0.484
Variance	0.022	Maximum	4.000	Skewness	-1.343
Std Deviation	0.147	Minimum	3.600	Std Error	0.060
Conduct Mark					
Mean	4.000	Range	0.000	Kurtosis	0.000
Variance	0.000	Maximum	4.000	Skewness	0.000
Std Deviation	0.000	Minimum	4.000	Std Error	0.000

Pearson Correlation Coefficient for Intercorrelation between the Proficiency Mark and the Leadership Mark.

Correlation Coefficient	Number of Cases	Level of Significance
R=1.000	N=6	p=0.001

Category 2, Paygrade E-8 — Number of cases = 10[3]

Proficiency Mark					
Mean	3.820	Range	0.400	Kurtosis	-1.325
Variance	0.020	Maximum	4.000	Skewness	-0.113
Std Deviation	0.140	Minimum	3.600	Std Error	0.044
Leadership Mark					
Mean	3.790	Range	0.200	Kurtosis	-1.846
Variance	0.010	Maximum	3.900	Skewness	0.200
Std Deviation	0.099	Minimum	3.700	Std Error	0.031
Conduct Mark					
Mean	4.000	Range	0.000	Kurtosis	0.000
Variance	0.000	Maximum	4.000	Skewness	0.000
Std Deviation	0.000	Minimum	4.000	Std Error	0.000

Pearson Correlation Coefficient for Intercorrelation between the Proficiency Mark and the Leadership Mar.

Correlation Coefficient	Number of Cases	Level of Significance
R=0.8149	N=10	p=0.002

[3]Since the number of cases in this cross-section of the sample was less than thirty, the confidence that these results accurately represent the total population in this cross-section is suspect.

Analysis of Coast Guard-wide Sample of Performance Marks for 31 December 1975

Category 2, Paygrade E-7 — Number of cases = 45

Proficiency Mark					
Mean	3.751	Range	0.500	Kurtosis	-0.713
Variance	0.019	Maximum	4.000	Skewness	-0.288
Std Deviation	0.138	Minimum	3.500	Std Error	0.021
Leadership Mark					
Mean	3.696	Range	0.700	Kurtosis	-0.552
Variance	0.028	Maximum	4.000	Skewness	-0.228
Std Deviation	0.166	Minimum	3.300	Std Error	0.025
Conduct Mark					
Mean	4.000	Range	0.000	Kurtosis	0.000
Variance	0.000	Maximum	4.000	Skewness	0.000
Std Deviation	0.000	Minimum	4.000	Std Error	0.000

Pearson Correlation Coefficient for Intercorrelation between the Proficiency Mark and the Leadership Mark.

Correlation Coefficient	Number of Cases	Level of Significance
R=0.7943	N=45	p=0.001

Category 2, Paygrade E-6 — Number of cases = 52

Proficiency Mark					
Mean	3.706	Range	0.700	Kurtosis	1.219
Variance	0.021	Maximum	4.000	Skewness	-0.948
Std Deviation	0.143	Minimum	3.300	Std Error	0.020
Leadership Mark					
Mean	3.675	Range	0.700	Kurtosis	-0.340
Variance	0.024	Maximum	4.000	Skewness	-0.348
Std Deviation	0.155	Minimum	3.300	Std Error	0.021
Conduct Mark					
Mean	4.000	Range	0.000	Kurtosis	0.000
Variance	0.000	Maximum	4.000	Skewness	0.000
Std Deviation	0.000	Minimum	4.000	Std Error	0.000

Pearson Correlation Coefficient for Intercorrelation between the Proficiency Mark and the Leadership Mark.

Correlation Coefficient	Number of Cases	Level of Significance
R=0.7591	N=52	p=0.001

Analysis of Coast Guard-wide Sample of Performance Marks for 31 December 1975

Category 2, Paygrade E-5 — Number of cases = 54

Proficiency Mark					
Mean	3.606	Range	0.600	Kurtosis	-0.937
Variance	0.034	Maximum	3.900	Skewness	-0.193
Std Deviation	0.184	Minimum	3.300	Std Error	0.025
Leadership Mark					
Mean	3.535	Range	0.700	Kurtosis	-0.518
Variance	0.033	Maximum	3.900	Skewness	0.262
Std Deviation	0.180	Minimum	3.200	Std Error	0.025
Conduct Mark					
Mean	3.978	Range	1.000	Kurtosis	47.027
Variance	0.019	Maximum	4.000	Skewness	-6.941
Std Deviation	0.137	Minimum	3.000	Std Error	0.019

Pearson Correlation Coefficient for Intercorrelation between the Proficiency Mark and the Leadership Mark.

Correlation Coefficient	Number of Cases	Level of Significance
R=0.8428	N=54	p=0.001

Category 2, Paygrade E-4 — Number of cases = 72

Proficiency Mark					
Mean	3.544	Range	0.600	Kurtosis	-0.833
Variance	0.024	Maximum	3.800	Skewness	-0.164
Std Deviation	0.154	Minimum	3.200	Std Error	0.018
Leadership Mark					
Mean	3.453	Range	0.800	Kurtosis	-0.153
Variance	0.028	Maximum	3.800	Skewness	0.076
Std Deviation	0.169	Minimum	3.000	Std Error	0.020
Conduct Mark					
Mean	3.986	Range	0.800	Kurtosis	62.884
Variance	0.009	Maximum	4.000	Skewness	-7.955
Std Deviation	0.095	Minimum	3.200	Std Error	0.011

Pearson Correlation Coefficient for Intercorrelation between the Proficiency Mark and the Leadership Mark.

Correlation Coefficient	Number of Cases	Level of Significance
R=0.7341	N=72	p=0.001

Analysis of Coast Guard-wide Sample of Performance Marks for 31 December 1975

Category 3, Paygrade E-9 — Number of cases = 6[3]

Proficiency Mark					
Mean	3.917	Range	0.100	Kurtosis	1.200
Variance	0.002	Maximum	4.000	Skewness	-1.000
Std Deviation	0.041	Minimum	3.900	Std Error	0.045
Leadership Mark					
Mean	3.900	Range	0.300	Kurtosis	-0.000
Variance	0.012	Maximum	4.000	Skewness	-1.000
Std Deviation	0.110	Minimum	3.700	Std Error	0.045
Conduct Mark					
Mean	4.000	Range	0.000	Kurtosis	0.000
Variance	0.000	Maximum	4.000	Skewness	0.000
Std Deviation	0.000	Minimum	4.000	Std Error	0.000

Pearson Correlation Coefficient for Intercorrelation between the Proficiency Mark and the Leadership Mark.

Correlation Coefficient	Number of Cases	Level of Significance
R=0.4474	N = 6	p=0.187

Category 3, Paygrade E-8 — Number of cases = 22[3]

Proficiency Mark					
Mean	3.877	Range	0.300	Kurtosis	0.671
Variance	0.005	Maximum	4.000	Skewness	-0.608
Std Deviation	0.069	Minimum	3.700	Std Error	0.015
Leadership Mark					
Mean	3.836	Range	0.400	Kurtosis	1.201
Variance	0.007	Maximum	4.000	Skewness	-0.762
Std Deviation	0.085	Minimum	3.600	Std Error	0.018
Conduct Mark					
Mean	4.000	Range	0.000	Kurtosis	0.000
Variance	0.000	Maximum	4.000	Skewness	0.000
Std Deviation	0.000	Minimum	4.000	Std Error	0.000

Pearson Correlation Coefficient for Intercorrelation between the Proficiency Mark and the Leadership Mark.

Correlation Coefficient	Number of Cases	Level of Significance
R=0.8055	N=22	p=0.001

[3]Since the number of cases in this cross-section of the sample was less than thirty, the confidence that these results accurately represent the total population in this cross-section is suspect.

Analysis of Coast Guard-wide Sample of Performance Marks for 31 December 1975

Category 3, Paygrade E-7 — Number of cases = 48

Proficiency Mark					
Mean	3.827	Range	0.400	Kurtosis	0.196
Variance	0.008	Maximum	4.000	Skewness	-0.747
Std Deviation	0.087	Minimum	3.600	Std Error	0.013
Leadership Mark					
Mean	3.802	Range	0.400	Kurtosis	-0.788
Variance	0.010	Maximum	4.000	Skewness	-0.405
Std Deviation	0.102	Minimum	3.600	Std Error	0.015
Conduct Mark					
Mean	4.000	Range	0.000	Kurtosis	0.000
Variance	0.000	Maximum	4.000	Skewness	0.000
Std Deviation	0.000	Minimum	4.000	Std Error	0.000

Pearson Correlation Coefficient for Intercorrelation between the Proficiency Mark and the Leadership Mark.

Correlation Coefficient	Number of Cases	Level of Significance
R=0.7134	N=48	p=0.001

Category 3, Paygrade E-6 — Number of cases = 63

Proficiency Mark					
Mean	3.790	Range	0.800	Kurtosis	1.896
Variance	0.024	Maximum	4.000	Skewness	-1.272
Std Deviation	0.156	Minimum	3.200	Std Error	0.020
Leadership Mark					
Mean	3.743	Range	0.800	Kurtosis	0.374
Variance	0.032	Maximum	4.000	Skewness	-0.938
Std Deviation	0.178	Minimum	3.200	Std Error	0.022
Conduct Mark					
Mean	4.000	Range	0.000	Kurtosis	0.000
Variance	0.000	Maximum	4.000	Skewness	0.000
Std Deviation	0.000	Minimum	4.000	Std Error	0.000

Pearson Correlation Coefficient for Intercorrelation between the Proficiency Mark and the Leadership Mark.

Correlation Coefficient	Number of Cases	Level of Significance
R=0.8997	N=63	p=0.001

Analysis of Coast Guard-wide Sample of Performance Marks for 31 December 1975

Category 3, Paygrade E-5 — Number of cases - 72

Proficiency Mark					
Mean	3.654	Range	0.600	Kurtosis	0.036
Variance	0.019	Maximum	3.900	Skewness	-0.441
Std Deviation	0.136	Minimum	3.300	Std Error	0.016
Leadership Mark					
Mean	3.599	Range	0.700	Kurtosis	0.067
Variance	0.023	Maximum	3.900	Skewness	-0.350
Std Deviation	0.151	Minimum	3.200	Std Error	0.018
Conduct Mark					
Mean	3.993	Range	0.500	Kurtosis	67.014
Variance	0.003	Maximum	4.000	Skewness	-8.307
Std Deviation	0.059	Minimum	3.500	Std Error	0.007

Pearson Correlation Coefficient for Intercorrelation between the Proficiency Mark and the Leadership Mark.

Correlation Coefficient	Number of Cases	Level of Significance
R=0.8273	N=72	p=0.001

Category 3, Paygrade E-4 — Number of cases = 66

Proficiency Mark					
Mean	3.480	Range	0.800	Kurtosis	0.012
Variance	0.024	Maximum	3.900	Skewness	0.105
Std Deviation	0.154	Minimum	3.100	Std Error	0.019
Leadership Mark					
Mean	3.459	Range	0.800	Kurtosis	0.078
Variance	0.026	Maximum	3.900	Skewness	0.418
Std Deviation	0.162	Minimum	3.100	Std Error	0.020
Conduct Mark					
Mean	4.000	Range	0.000	Kurtosis	0.000
Variance	0.000	Maximum	4.000	Skewness	0.000
Std Deviation	0.000	Minimum	4.000	Std Error	0.000

Pearson Correlation Coefficient for Intercorrelation between the Proficiency Mark and the Leadership Mark.

Correlation Coefficient	Number of Cases	Level of Significance
R=0.8129	N=66	p=0.001

APPENDIX E

Analysis of the Servicewide Examination Data from March 1976 Servicewides

To compute the actual weightings that each of the five factors contribute to the final multiple for advancement, a series of multiple regressions were computed on the March 1976 servicewide examination data obtained from the Coast Guard Institute utilizing the "Statistical Package for the Social Sciences." The actual contributions were determined from the amount of variance in the final multiple produced by each factor as determined by the change in the squared value of the multiple regression coefficient. Several regressions were performed, first by aggregating all paygrades and then by each individual paygrade from E-2 to E-8 who had competed for advancement to paygrades E-4 to E-9 respectively.

One shortcoming with this methodology was that there was some intercorrelation between the factors. However, these intercorrelations were very small except between the time in service factor and the time in paygrade in present rating factor. Consequently, the actual contribution made by the performance factor, as well as the servicewide examination and awards factors, have been considered reasonably accurate.

The tabular display of results that follows employed the following abbreviations that were unique to the study and are not commonly accepted statistical abbreviations:

Abbreviation	Meaning
SWE	Servicewide examination factor
PERF	Performance factor
TIS	Time in Service factor
TIR	Time in paygrade in present rating factor
FINALMUL	Final Multiple

Analysis of the Servicewide Examination Data From March 1976 Servicewides

Computations for personnel presently in Paygrades E-3 through E-8

CORRELATION COEFFICIENTS

	TIS	TIR	PERF	AWARDS	SWE	FINALMUL
TIS	1.00000	0.62756	0.27068	0.62156	-0.09114	0.61853
TIR	0.62756	1.00000	0.17615	0.35807	-0.03980	0.57811
PERF	0.27068	0.17615	1.00000	0.27812	0.11583	0.54630
AWARDS	0.62156	0.35807	0.27812	1.00000	-0.06289	0.47716
SWE	-0.09114	-0.03980	0.11583	-0.06289	1.00000	0.62446
FINALMUL	0.61853	0.57811	0.54630	0.47716	0.62446	1.00000

MULTIPLE REGRESSION

DEPENDENT VARIABLE..FINAL MULTIPLE

VARIABLE	MEAN	STD DEV	CASES	MUL R	R SQR	RSQ CHANGE	SIMPLE R
TIS	11.9973	5.0099	2729	0.61853	0.38258	0.38258	0.61853
TIR	4.3733	2.4370	2729	0.66490	0.44210	0.05952	0.57811
PERF	40.5379	4.4869	2729	0.77162	0.59540	0.15331	0.54630
AWARDS	2.7208	1.8753	2729	0.77524	0.60100	0.00560	0.47716
SWE	49.8051	9.7889	2729	0.99910	0.99820	0.39720	0.62446
FINALMUL	113.7403	15.3247	2729				

SUMMARY OF RESULTS

VARIABLE	INTENDED CONTRIBUTION (%)	ACTUAL CONTRIBUTION (%) (R SQUARE CHANGE)
SWE	44.44	39.72
PERF	27.78	15.33
TIS	11.11	38.26
TIR	11.11	5.95
AWARDS	5.56	0.56
FINAL MULTIPLE	100.00	99.82

Analysis of the Servicewide Examination Data From March 1976 Servicewides

Computations for personnel presently in Paygrade E-8

CORRELATION COEFFICIENTS

	TIS	TIR	PERF	AWARDS	SWE	FINALMUL
TIS	1.00000	0.03215	-0.05000	0.32874	-0.49811	-0.28727
TIR	0.03215	1.00000	0.00568	-0.06842	-0.26143	-0.06157
PERF	-0.05000	0.00568	1.00000	-0.00935	0.06810	0.42751
AWARDS	0.32874	-0.06842	-0.00935	1.00000	-0.31861	-0.08097
SWE	-0.49811	-0.25143	0.06810	-0.31861	1.00000	0.87044
FINALMUL	-0.28727	-0.06157	0.42751	-0.08097	0.87044	1.00000

MULTIPLE REGRESSION

DEPENDENT VARIABLE..FINAL MULTIPLE

VARIABLE	MEAN	STD DEV	CASES	MUL R	R SQR	RSQ CHANGE	SIMPLE R
TIS	18.7522	1.3797	77	0.28727	0.08252	0.08252	-0.28727
TIR	2.8820	0.8773	77	0.29200	0.08527	0.00274	-0.06157
PERF	44.7558	2.8132	77	0.50667	0.25671	0.17145	0.42751
AWARDS	5.1039	1.6748	77	0.50671	0.25675	0.00004	-0.08097
SWE	50.2468	8.1615	77	0.99920	0.99841	0.74165	0.87044
FINALMUL	124.6291	7.6972	77				

SUMMARY OF RESULTS

VARIABLE	INTENDED CONTRIBUTION (%)	ACTUAL CONTRIBUTION(%) (R SQUARE CHANGE)
SWE	44.44	74.17
PERF	27.78	17.15
TIS	11.11	8.25
TIR	11.11	5.27
AWARDS	5.56	0.00
FINAL MULTIPLE	100.00	99.84

Analysis of the Servicewide Examination Data From March 1976 Servicewides

Computations for personnel presently in Paygrade E-7

CORRELATION COEFFICIENTS

	TIS	TIR	PERF	AWARDS	SWE	FINALMUL
TIS	1.00000	0.39422	-0.09407	0.29444	-0.35381	0.00381
TIR	0.39422	1.00000	-0.14175	0.13677	-0.11201	0.27131
PERF	-0.09407	-0.14175	1.00000	0.10481	0.01583	0.31005
AWARDS	0.29444	0.13677	0.10481	1.00000	-0.13887	0.16983
SWE	-0.35381	-0.11201	0.01583	-0.13887	1.00000	0.82076
FINALMUL	0.00381	0.27131	0.31005	0.16983	0.82076	1.00000

MULTIPLE REGRESSION

DEPENDENT VARIABLE..FINAL MULTIPLE

VARIABLE	MEAN	STD DEV	CASES	MUL R	R SQR	RSQ CHANGE	SIMPLE R
TIS	17.7567	1.9593	437	0.00381	0.00001	0.00001	0.00381
TIR	5.5917	1.8137	437	0.29361	0.08621	0.08619	0.27131
PERF	42.5673	3.5893	437	0.45505	0.20707	0.12087	0.31005
AWARDS	4.4691	1.6992	437	0.47092	0.22177	0.01469	0.16983
SWE	50.0297	9.8956	437	0.99863	0.99726	0.77549	0.82076
FINALMUL	125.9634	10.5001	437				

SUMMARY OF RESULTS

VARIABLE	INTENDED CONTRIBUTION (%)	ACTUAL CONTRIBUTION (%) (R SQUARE CHANGE)
SWE	44.44	77.57
PERF	27.78	12.09
TIS	11.11	0.00
TIR	11.11	8.62
AWARDS	5.56	1.47
FINAL MULTIPLE	100.00	99.75

Analysis of the Servicewide Examination Data From March 1976 Servicewides

Computations for personnel presently in Paygrade E-6

CORRELATION COEFFICIENTS

	TIS	TIR	PERF	AWARDS	SWE	FINALMUL
TIS	1.00000	0.58807	-0.09416	0.50323	-0.17622	0.38551
TIR	0.58807	1.00000	0.00054	0.33954	-0.07672	0.48518
PERF	-0.09416	0.00054	1.00000	0.11714	0.17194	0.42549
AWARDS	0.50323	0.33954	0.11714	1.00000	-0.07468	0.35702
SWE	-0.17622	-0.07672	0.17194	-0.07468	1.00000	0.72448
FINALMUL	0.38551	0.48518	0.42549	0.35702	0.72448	1.00000

MULTIPLE REGRESSION

DEPENDENT VARIABLE..FINAL MULTIPLE

VARIABLE	MEAN	STD DEV	CASES	MUL R	R SQR	RSQ CHANGE	SIMPLE R
TIS	13.3655	3.7343	1159	0.38551	0.14862	0.14862	0.38551
TIR	5.5213	2.4137	1159	0.50074	0.25075	0.10213	0.48518
PERF	41.3222	4.0225	1159	0.66839	0.44675	0.19601	0.42549
AWARDS	2.8179	1.5750	1159	0.67409	0.45440	0.00765	0.35702
SWE	50.0906	9.9112	1159	0.99792	0.99585	0.54144	0.72448
FINALMUL	118.5094	13.1673	1159				

SUMMARY OF RESULTS

VARIABLE	INTENDED CONTRIBUTION (%)	ACTUAL CONTRIBUTION (%) (R SQUARE CHANGE)
SWE	44.44	54.14
PERF	27.78	19.60
TIS	11.11	14.86
TIR	11.11	10.21
AWARDS	5.56	0.77
FINAL MULTIPLE	100.00	99.58

Analysis of the Servicewide Examination Data From March 1976 Servicewides

Computations for personnel presently in Paygrade E-5

CORRELATION COEFFICIENTS

	TIS	TIR	PERF	AWARDS	SWE	FINALMUL
TIS	1.00000	0.47569	-0.04839	0.42859	-0.16975	0.29449
TIR	0.47569	1.00000	0.02183	0.21243	0.06243	0.38465
PERF	-0.04839	0.02183	1.00000	0.07150	0.11231	0.44422
AWARDS	0.42859	0.21243	0.07150	1.00000	-0.10513	0.22725
SWE	-0.16975	-0.06243	0.11231	-0.10513	1.00000	0.77732
FINALMUL	0.29449	0.38465	0.44422	0.22725	0.77732	1.00000

MULTIPLE REGRESSION

DEPENDENT VARIABLE..FINAL MULTIPLE

VARIABLE	MEAN	STD DEV	CASES	MUL R	R SQR	RSQ CHANGE	SIMPLE R
TIS	8.2621	3.2307	743	0.29449	0.08673	0.08673	0.29449
TIR	2.8964	1.6641	743	0.40501	0.16403	0.07730	0.38465
PERF	39.3385	4.1567	743	0.60200	0.36240	0.19838	0.44422
AWARDS	1.7133	1.3608	743	0.60537	0.36648	0.00407	0.22725
SWE	49.4240	9.7007	743	0.99959	0.99919	0.63271	0.77732
FINALMUL	104.5105	11.9160	743				

SUMMARY OF RESULTS

VARIABLE	INTENDED CONTRIBUTION (%)	ACTUAL CONTRIBUTION (%) (R SQUARE CHANGE)
SWE	44.44	63.27
PERF	27.78	19.84
TIS	11.11	8.67
TIR	11.11	7.73
AWARDS	5.56	0.41
FINAL MULTIPLE	100.00	99.92

Analysis of the Servicewide Examination Data From the March 1976 Servicewides

Computations for personnel presently in Paygrade E-4

CORRELATION COEFFICIENTS

	TIS	TIR	PERF	AWARDS	SWE	FINALMUL
TIS	1.00000	0.23545	-0.08372	0.15319	-0.11745	0.13193
TIR	0.23545	1.00000	0.02932	-0.12944	0.03001	0.30541
PERF	-0.08372	0.02932	1.00000	0.13830	0.02612	0.45096
AWARDS	0.15319	-0.12944	0.13830	1.00000	-0.05102	0.16808
SWE	-0.11745	0.03001	0.02612	-0.05102	1.00000	0.82294
FINALMUL	0.13193	0.30541	0.45096	0.16808	0.82294	1.00000

MULTIPLE REGRESSION

DEPENDENT VARIABLE..FINAL MULTIPLE

VARIABLE	MEAN	STD DEV	CASES	MUL R	R SQR	RSQ CHANGE	SIMPLE R
TIS	6.2524	2.0945	273	0.13193	0.01741	0.01741	0.13193
TIR	2.3193	1.4255	273	0.31159	0.09709	0.07968	0.30541
PERF	36.8626	4.7851	273	0.54728	0.29952	0.20243	0.45096
AWARDS	1.7363	1.8200	273	0.56225	0.31613	0.01661	0.16808
SWE	49.5092	9.6345	273	0.99969	0.99938	0.68325	0.82294
FINALMUL	99.0008	11.5081	273				

SUMMARY OF RESULTS

VARIABLE	INTENDED CONTRIBUTION (%)	ACTUAL CONTRIBUTION (%) (R SQUARE CHANGE)
SWE	44.44	68.33
PERF	27.78	20.24
TIS	11.11	1.74
TIR	11.11	7.97
AWARDS	5.56	1.66
FINAL MULTIPLE	100.00	99.94

Analysis of the Servicewide Examination Data From the March 1976 Servicewides

Computations for personnel presently in Paygrade E-3

CORRELATION COEFFICIENTS

	TIS	TIR	PERF	AWARDS	SWE	FINALMUL
TIS	1.00000	0.02527	0.13849	0.31194	-0.18017	0.05417
TIR	0.02527	1.00000	-0.23777	-0.20642	-0.17992	-0.13609
PERF	0.13849	-0.23777	1.00000	0.22871	0.04330	0.47200
AWARDS	0.31194	-0.20642	0.22871	1.00000	0.09060	0.32709
SWE	-0.18017	-0.17992	0.04330	0.09060	1.00000	0.86848
FINALMUL	0.05417	-0.13609	0.47200	0.32709	0.86848	1.00000

MULTIPLE REGRESSION

DEPENDENT VARIABLE..FINAL MULTIPLE

VARIABLE	MEAN	STD DEV	CASES	MUL R	R SQR	RSQ CHANGE	SIMPLE R
TIS	5.0167	1.2728	40	0.05417	0.00293	0.00293	0.05417
TIR	2.1229	0.9037	40	0.14779	0.02184	0.01891	-0.13609
PERF	34.8875	5.0656	40	0.47274	0.22348	0.20164	0.47200
AWARDS	1.6500	1.7910	40	0.52946	0.28033	0.05685	0.32709
SWE	47.3250	10.5159	40	0.99966	0.99933	0.71900	0.86848
FINALFUL	93.1010	11.8843	40				

SUMMARY OF RESULTS

VARIABLE	INTENDED CONTRIBUTION (%)	ACTUAL CONTRIBUTION (%) (R SQUARE CHANGE)
SWE	44.44	71.90
PERF	27.78	20.16
TIS	11.11	0.29
TIR	11.11	1.89
AWARDS	5.56	5.69
FINAL MULTIPLE	100.00	99.93

APPENDIX F

Performance Mark Distributions Computed From March 1976 Servicewide Examination Data

Paygrades E-3 through E-8				Number of cases	4707
Mean	3.624	Range	0.770	Kurtosis	-0.873
Variance	0.028	Maximum	4.000	Skewness	-0.157
Std Deviation	0.166	Minimum	3.230	Std Error	0.002
Paygrade E-8				Number of cases	83
Mean	3.827	Range	0.440	Kurtosis	0.600
Variance	0.009	Maximum	4.000	Skewness	-0.877
Std Deviation	0.094	Minimum	3.560	Std Error	0.010
Paygrade E-7				Number of cases	473
Mean	3.751	Range	0.700	Kurtosis	1.151
Variance	0.015	Maximum	3.960	Skewness	-1.008
Std Deviation	0.121	Minimum	3.260	Std Error	0.006
Paygrade E-6				Number of cases	1220
Mean	3.707	Range	0.760	Kurtosis	0.425
Variance	0.018	Maximum	4.000	Skewness	-0.752
Std Deviation	0.136	Minimum	3.240	Std Error	0.004
Paygrade E-5				Number of cases	1071
Mean	3.638	Range	0.720	Kurtosis	-0.404
Variance	0.020	Maximum	3.950	Skewness	-0.245
Std Deviation	0.141	Minimum	3.230	Std Error	0.004
Paygrade E-4				Number of cases	1299
Mean	3.535	Range	0.700	Kurtosis	-0.295
Variance	0.021	Maximum	4.000	Skewness	0.410
Std Deviation	0.145	Minimum	3.300	Std Error	0.004
Paygrade E-3				Number of cases	561
Mean	3.485	Range	0.650	Kurtosis	0.332
Variance	0.019	Maximum	3.950	Skewness	0.765
Std Deviation	0.138	Minimum	3.300	Std Error	0.006

APPENDIX G

COAST GUARD ENLISTED PERFORMANCE SIGNIFICANT INCIDENT FORM	
Name	SSN
Rate	Unit
Period Covered	Division
Duties	
Objectives for the Period	
Special Projects	
Training Accomplishments	
Supervisor's Name and Rate	
Division Officer's Name and Rank	

End of Period Comments

Supervisor

Division Officer

Department Head

Executive Officer

Coast Guard Enlisted Performance Significant Incident Form

Performance of Duties

Positive Incidents	Date	Negative Incidents	Date
1. (Abstract term derived using the Echo Technique given)			
a.		a.	
b.		b.	
c.		c.	
Examples: (Given)			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

Coast Guard Enlisted Performance Significant Incident Form

Personal Qualities

Positive Incidents	Date	Negative Incidents	Date
1. (Abstract term derived using the Echo Technique given)			
a.		a.	
b.		b.	
c.		c.	
Examples: (Given)			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

Coast Guard Enlisted Performance Significant Incident Form

Record of Counseling

Initial Session: Date: Supervisor's Initials
Ratee's Initials

Areas Discussed:

Objectives for Period:

Duties Assigned:

Informal Sessions: Date: Supervisor's Initials
Ratee's Initials

Areas Discussed:

Date: Supervisor's Initials
Ratee's Initials

Areas Discussed:

Date: Supervisor's Initials
Ratee's Initials

Areas Discussed:

Date: Supervisor's Initials
Ratee's Initials

Areas Discussed:

End of Period Session: Supervisor's Initials

Date: Ratee's Initials
Div. Off. Initials

Areas Discussed:

Plans for Improvement:

APPENDIX H

COAST GUARD ENLISTED PERFORMANCE EVALUATION FORM

Name		SSN	
Rating	Paygrade	Report Type	Date
Unit Name		Unit OPFAC	
Description of Duties			
Training Accomplishments			

Performance of Duties	N/O	9	8	7	6	5	4	3	2	1
1.										
2.										
3.										
4.										
5.										
6.										
7.										
8.										
9.										
10.										
Overall Desired Distribution		1%	4%	10%	20%	30%	20%	10%	4%	1%

Personal Qualities	N/O	9	8	7	6	5	4	3	2	1
1.										
2.										
3.										
4.										
5.										
6.										
7.										
8.										
9.										
10.										
Overall Desired Distribution		1%	4%	10%	20%	30%	20%	10%	4%	1%

Coast Guard Enlisted Performance Evaluation Form

Conduct (Place conduct mark in appropriate block)

Cooduct good. Conforms to military standards and regulations. No court-martial convictions, non-judicial punishment or minor civil convictions.	Conduct satisfactory but occasionally lax. No court-martial coovictions. Not more than one noo-judicial punishment or minor civil couviction.	Meets minimum standards of conduct, or not more than one summary court-martial coviction, or not more than 2 minor offenses (NJP or civil) during the period.	Conduct unsatisfactory. Repeatedly commits minor military and/or civil offenses or convicted by special or general court-martial.

Comments

Future Assignment Recommendation

	Highly Recommended	Recommended	Not Recommended
Independent Duty			
Instructor Duty			
Public Interaction (Recruiting, Boating Safety, Intellegence)			

Commanding Officer's Name and Rank

Signature | Date

APPENDIX I

The Echo Technique

For an accurate assessment of an individual's performance to occur, the attention of the first-line supervisor must be directed to those specific actions that are associated with success or failure in the work environment. The Echo Technique used to identify these actions has the advantage over other methodologies of providing these specific examples while in the process of identifying the evaluation headings for the forms to be used in the proposed evaluation system. Since the Echo Technique is accomplished using a sample of individuals taken from the personnel that will eventually use the constructed form, an additional advantage of using current Coast Guard jargon is also derived.

The evaluation headings derived using this methodology will be abstractions under the general heading of "Performance of Duties" and "Personal Qualities." Examples of these evaluation headings might be phrases or terms such as "Training of Subordinates" or "Planning and Scheduling of Work" for the performance section, and "Initiative" or "Judgment" for the personal qualities section. These abstract terms in themselves do not lend themselves to objective evaluation

of subordinates. Specific examples of observable actions must be given to the first-line supervisor to aid him in the evaluation of his personnel. These examples are to be placed on the Significant Incident Form to direct the supervisor to the specific actions that should be looked for during his daily observations. This approach will lead to a more objective and meaningful system of evaluations.

A. SAMPLING METHODOLOGY

1. General Comments

For all paygrades the personnel selected are to be chosen on a stratified random sampling basis. Stratification is to be done to insure that representation from the general service, shipboard, and aviation communities is approximately equal to the proportion found in the population itself. The individuals selected are to be randomly selected, avoiding sampling based on convenience.

2. The Sample and Initial Procedure

a. For Paygrades E-6 through E-9

Forty individuals will be selected for each paygrade, twenty are to be in the paygrade being considered, ten from the two paygrades below, and ten from the immediate supervisors of the paygrade. These individuals will list ten good and ten bad actions from their Coast Guard

experience that are indicative of performance of duty and personal qualities. The end result of this process will be 800 examples, 400 good and 400 bad, for both performance of duty and personal qualities for each of the four paygrades.

b. For Paygrades E-2 through E-5

Forty individuals will be selected for each paygrade, twenty-five are to be in the paygrade being considered and fifteen are to be immediate supervisors of the paygrade. These individuals will list ten good and ten bad actions from their Coast Guard experience that are indicative of performance of duty only. The end result of this process will be 800 examples, 400 good and 400 bad, for the performance of duty for each paygrade.

B. CLASSIFICATION OF "PERFORMANCE OF DUTIES"

Eight individuals, randomly selected from the initial forty, will serve as classifiers for each paygrade. The 800 examples will be divided randomly among the eight classifiers (100 per classifier) who will individually compile or group cards together that appear to them to refer to the same attribute. The classifiers will be divided into two teams and meet in a common location. One classifier will read his or her groups and the other team members will add their cards to the reader's as they feel appropriate.

Additional card groupings are formed as necessary. The team will then review their initial classification, further refining the classification by reassigning cards by team consensus, and then the team will choose a descriptive term for each group of examples classified. The results of the two teams will be compared and final classification and naming of the groups will be done by the eight person team. The two team approach described above was chosen to reduce the effect of individual differences, avoid fatigue, and to allow for measurement of interclassifier reliability.

C. CLASSIFICATION OF "PERSONAL QUALITIES"

The same general procedures will be utilized for the classification of"Personal Qualities" examples as was used for the classification of "Performance of Duties" examples. An exception to this will be that eight classifiers per paygrade from the top four paygrades (total of 32 classifiers) will be randomly chosen to classify 100 examples each as individuals, then as eight person teams.

D. OUTPUT OF THE ECHO TECHNIQUE

The final output of the Echo Technique described above is the production of terms in the current jargon of the Coast Guard that group together observable actions that are indicative of performance of duty standards and personal

qualities that should be evaluated. These terms will be used as evaluation headings for both the Significant Incident Form and the Enlisted Performance Evaluation Form. "Performance of Duty" headings will vary with paygrade, but if the headings are similar, as may be expected for paygrades with similar duties, a composite form for these paygrades may be used. "Personal Qualities" evaluation headings will be the same for all paygrades and therefore on all forms.

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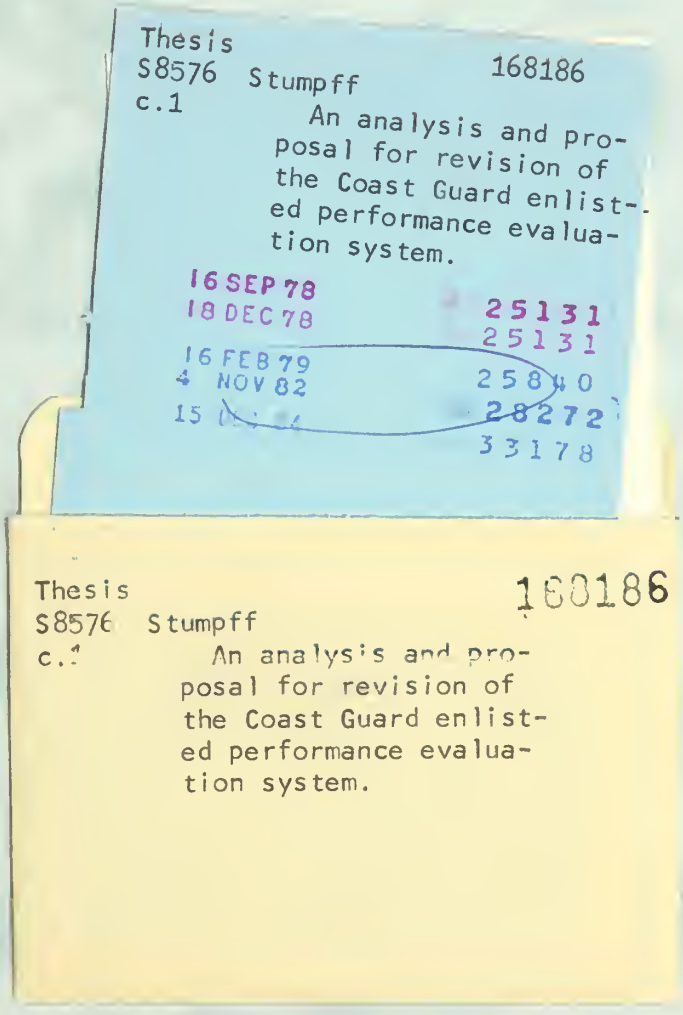

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